No.01

Oki Data CONFIDENTIAL

B4400/B4400L
Monochrome LED Page Printer
Maintenance Manual

ODA/OEL/AOS

[Rev. 4]

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4	2009-01-16	SG2-0022	Drawing Maintenance	Yoshinori Fujisawa	Yoshinori Fujisawa
—					—

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PREFACE

This Maintenance Manual describes the field maintenance methods for B4400, B4400L Monochrome LED Page Printers.

This manual is written for use by service persons. Please note that you should refer to the Printer Handbook for the handling and operating methods of the equipment.

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1. CONFIGURATION

1.1 System Configuration

B4400, B4400L consists of control and engine blocks in the standard configuration, as shown in Figure 1-1.

In addition, the options marked with asterisk(*) are available.

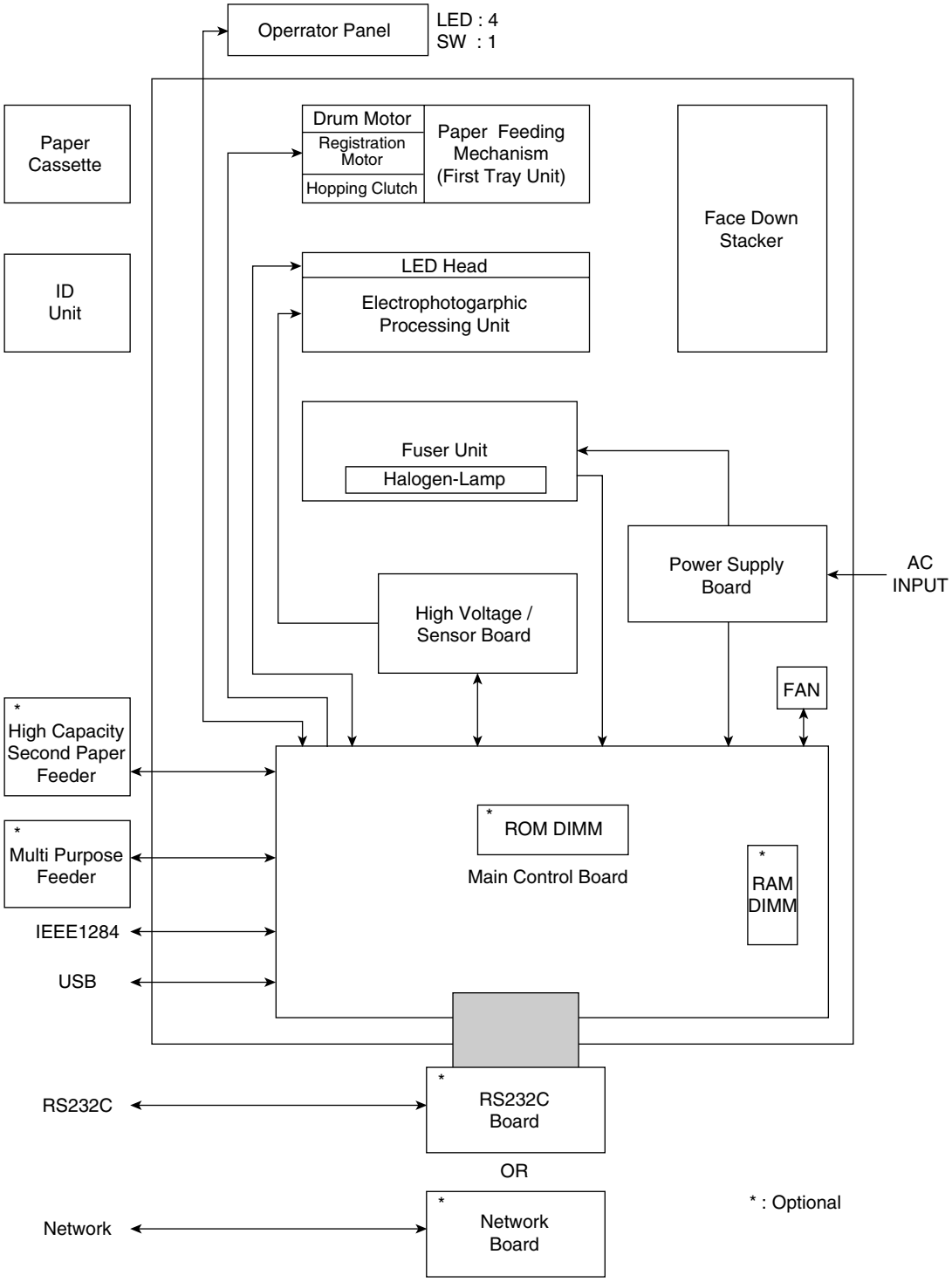


Figure 1-1

1.2 Printer Configuration

The printer unit consists of the following hardware components:

- Electrophotographic Processor
- Paper Feeder
- Controller
- Operator Panel
- Power Supply Unit

The printer unit configuration is shown in Figure 1-2.

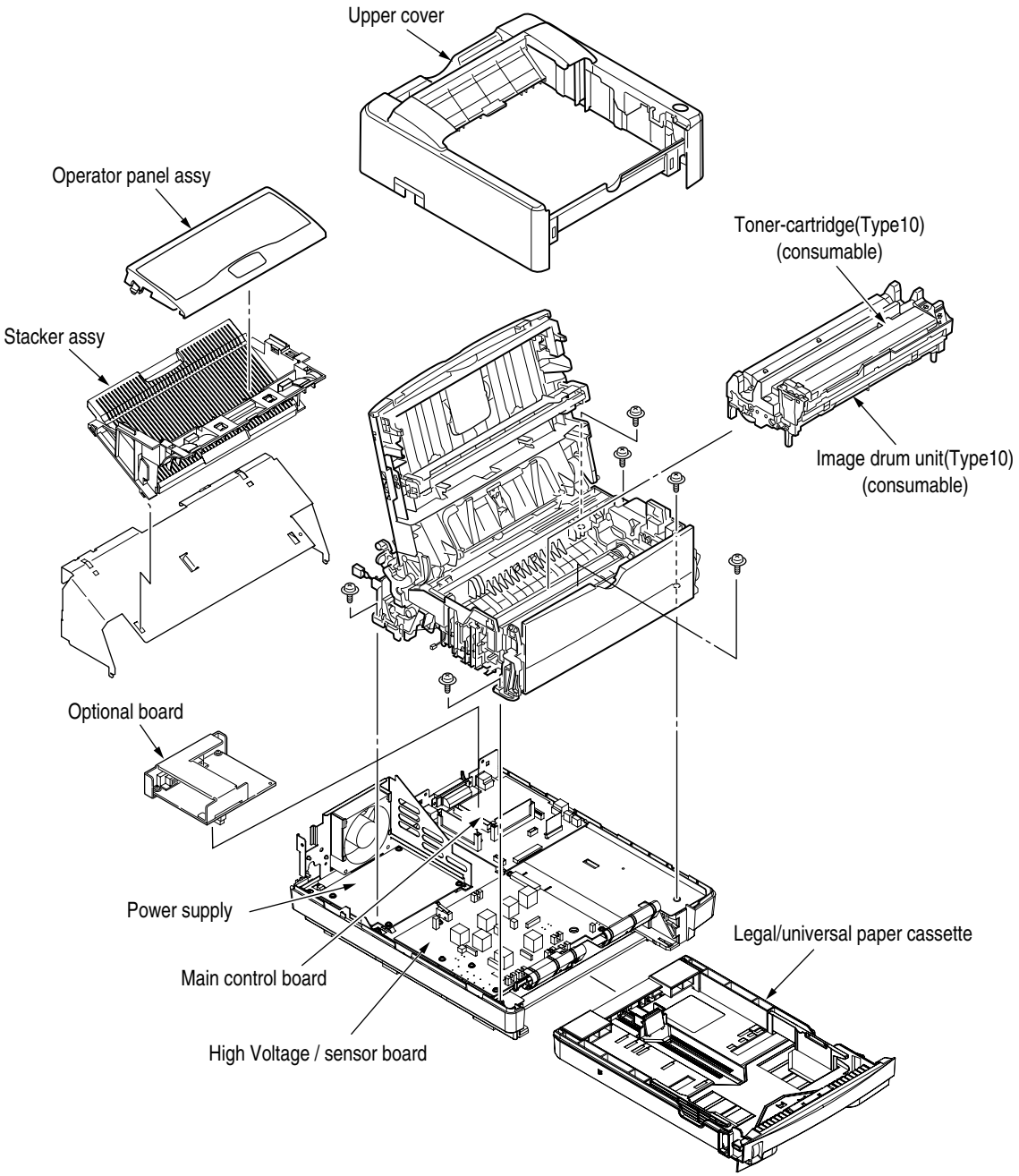
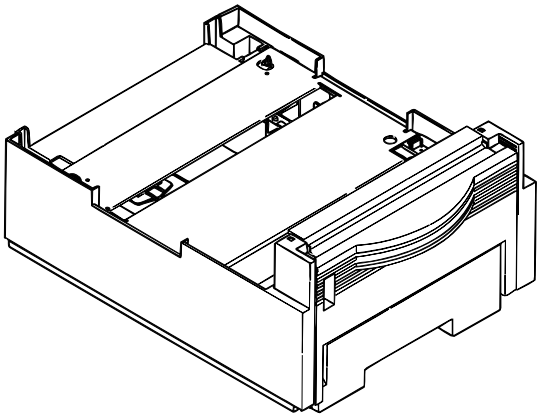


Figure 1-2

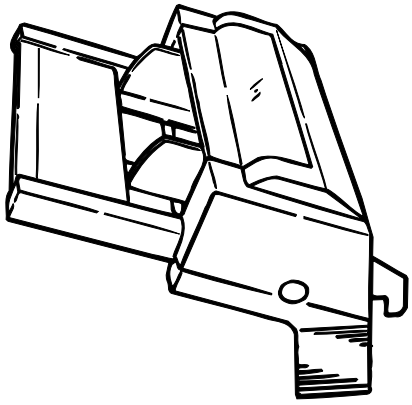
1.3 Optional Configuration

The options shown below are available for use with B4400, B4400L. These are available separately from the printer unit.

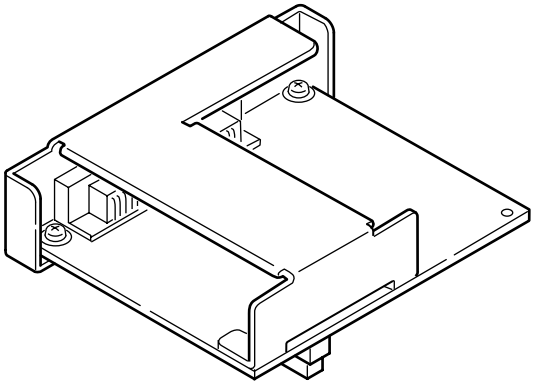
(1) High Capacity Second Paper Feeder



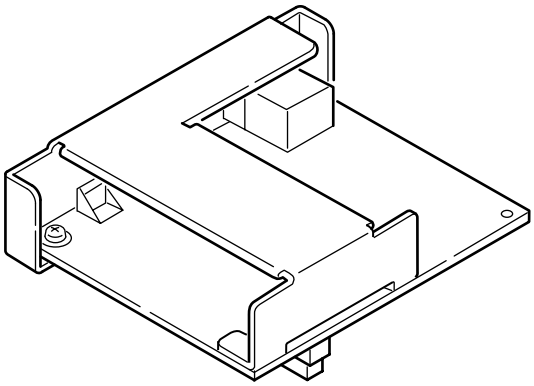
(2) Multi Purpose Feeder



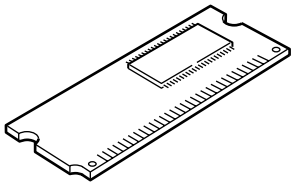
(3) RS232C Serial Interface Board



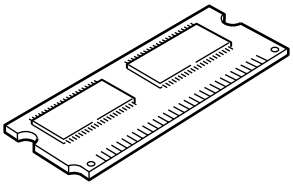
(4) Network Interface Board(Soft NIC CARD)



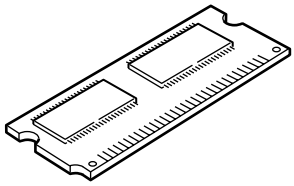
(5) SDRAM DIMM



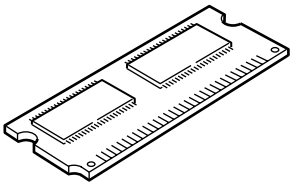
(i) 16MB



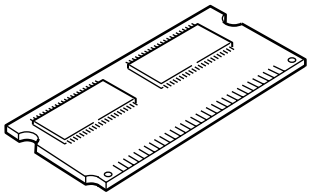
(ii) 32MB



(iii) 64MB

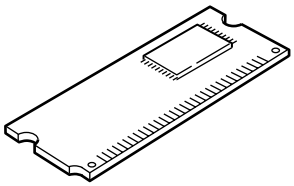


(iv) 128MB

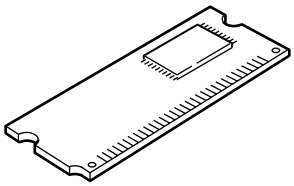


(v) 256MB

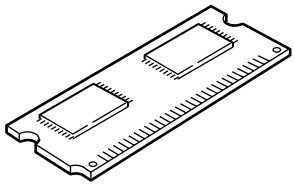
(6) Flash DIMM



(i) 1MB



(ii) 8MB



(iii) 16MB

1.4 Specification

(1) Type: Desktop

(2) External dimensions:
Height 7.9” (200 mm)
Width 14.0” (355 mm)
Depth 15.7” (400 mm)

(3) Weight: Approx. 9 kg

(4) Developing method: Dry electrophotography
Exposing method: LED stationary head

(5) Paper used

<Type>
- Standard paper
  – Xerox 4200 (20 lbs)
- Application paper (manual face-up feed)
  – Label
  – Envelope
  – OHP paper (transparency)

<Size>
- Standard sizes
  – Letter
  – Legal* [* Without Multi Purpose Feeder (Option)]
  – Legal-13*
  – Executive
  – COM-9 **
  – COM-10** [** manual feed and Multi Purpose Feeder
  – Monarch** (option) only]
  – DL**
  – C5**
  – A4
  – A5
  – B5 (JIS)
  – A6
  – Statement*** [***Without high capacity second paper feeder option)]
- Applicable sizes
  – Width : 3.5” to 8.5” (90 to 216 mm)
  – Length : 5.8” to 14” (148 to 355.6 mm)

<Thickness>
  – Automatic feed : 16 to 28 lbs (60 to 105 g/m^2)
  – Manual feed : Label, OHP paper (transparency)
    Envelope (24 to 28 lbs)

(6) Printing speed

Continuous printing : 27 pages per minute with Letter size paper.
26 pages per minute with A4 size paper.
[Except, Multi purpose Feeder (13ppm)with Letter size paper.]

Warm-up time : 25 seconds typical at room temperature [77˚F (25˚C), AC 120/230 V].

First page print time : 5 seconds typical for the Letter size paper (5.1 seconds for the A4 size) after warm-up.

(7) Paper feeding method: Automatic feed or manual feed

(8) Paper delivery method: Face down/face up

(9) Resolution:
600 × 600 dots/inch
600 × 1200 dots/inch
600 × 2400 dots/inch (Print speed is half speed)

(10) Power input

110~127 VAC ± 10%, 50/60 Hz ±2Hz
220~240 VAC ± 10%, 50/60 Hz ±2Hz

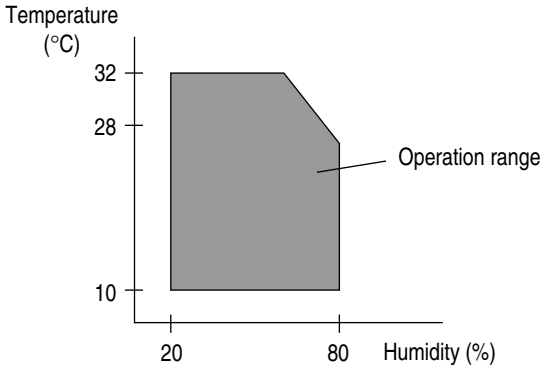
(11) Power consumption

		120VAC	230VAC
Peak	:	Approx. 800W	Approx. 800W
Typical operation	:	Approx. 400W	Approx. 400W
Idle	:	Approx. 70W	Approx. 70W
Power save mode (Without option)	:	Approx. 7W	Approx. 7W
Power save mode (With full option)	:	Approx. 10W	Approx. 10W

	In operation	Power off mode	During Storage	Unit
Temperature	50-90 (10-32)	32-110 (0-43)	14-110 (–10-43)	°F (°C)
Humidity	20-80	10-90	10-90	%RH
Maximum wet bulb temperature	77 (25)	80.4 (26.8)	———	°F (°C)
Minimum diference between wet and dry bulb temperatures	35.6 (2)	35.6 (2)	———	°F (°C)

(12) Temperature and humidity

1. Storage conditions specified above apply to printers in packed condition.
2. Temperature and humidity must be in the range where no condensation occurs.



(13) Noise

During operation : 53 dB (A) or less
Standby : 30 dB (A) or less (Except idling operation)
Quiet mode : Back ground level

(14) Consumables

Toner cartridge kit 3,000 (ISO/IEC 19752 Printing pattern)

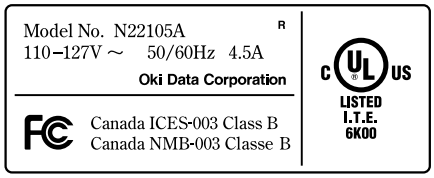
Image drum cartridge 25,000 (at continuouts printing)
20,000 (3 page/job) without Power Save
12,000 (1 page/job) without Power Save
7,000 (1 page/job) with Power Save
(Minimum)

1.5 Safety Standards

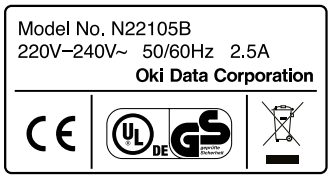
1.5.1 Certification Label

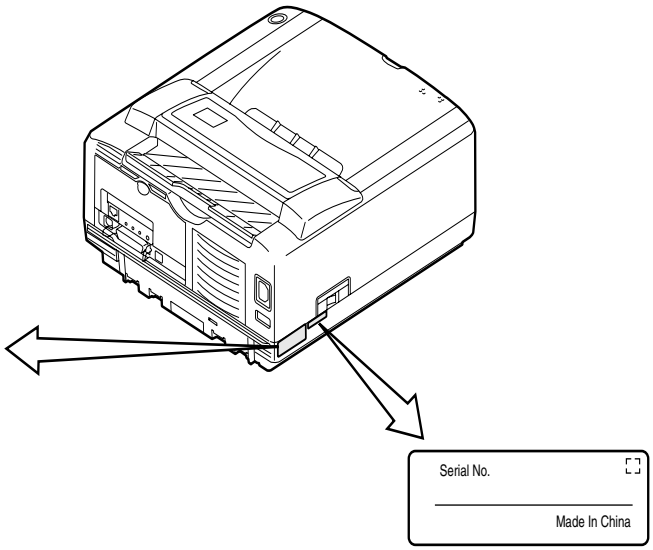
The safety certification label is affixed to the printer in the position described below.

ODA AC : 120V model



OEL AC : 230V model

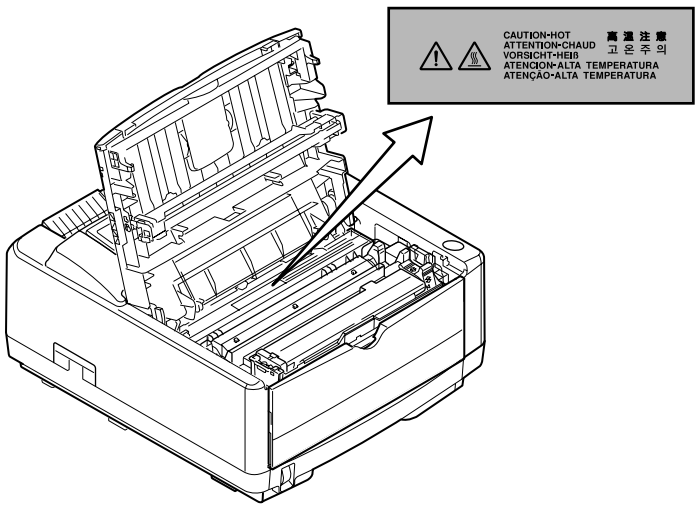




1.5.2 Warning Label

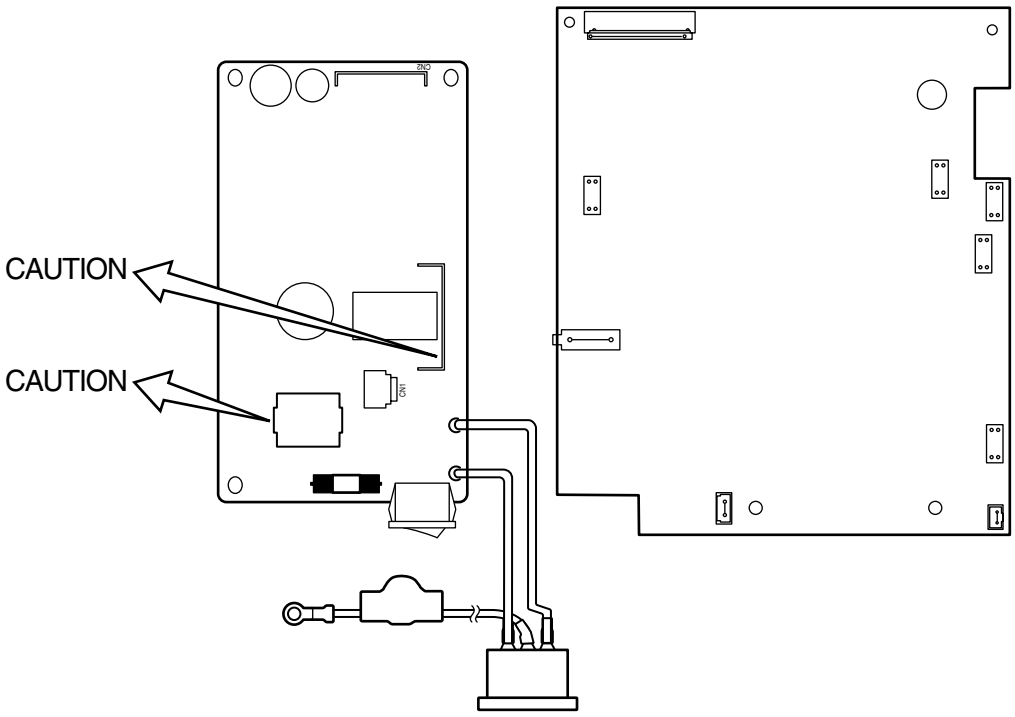
The warning labels are affixed to the sections which may cause bodily injury.

Follow the instructions on warning labels during maintenance.



1.5.3 Warning/Caution Marking

The following warning and caution markings are made on the power supply/sensor board.



ENGLISH

Heatsink and transformer core present risk of electric shock. Test before touching.

FRENCH

Le dissipateur thermique et le noyau du transformateur présentent des risques de choc électrique. Testez avant de manipuler.

SPANISH

Las disipadores de color el núcel del transformador pueden producir un choque eléctrico. Compruebe antes de tocar.

PORTUGUESE

O dissipador de calor e o núcleo do fransiormador apresentam risco de choque elétrico. Teste antes de focar.

ENGLISH

Circuits maybe live after fuses open.

FRENCH

Il se peut que les circuits soient sous tension une fois que les fusibles ont éfé rerirés.

SPANISH

Las circuitos pueden estar activos una vez que se hayan abierio los fusibles.

PORTUGUESE

Os circuitos podem estar energizados após os fusiveis se queimarem.

2. PARTS REPLACEMENT

The section explains the procedures for replacement of parts, assemblies, and units in the field. Only the disassembly procedures are explained here. For reassembly, reverse the disassembly procedure.

2.1 Precautions for Parts Replacement

(1) Before starting to replace parts, remove the AC cord and interface cable.

(a) Remove the AC cord in the following sequence:

i) Turn off (“o”) the power switch of the printer
ii) Disconnect the AC inlet plug of the AC cord from the AC receptacle.
iii) Disconnect the AC cord and interface cable from the printer.

⚠Warning	Risk of Electric Shock	

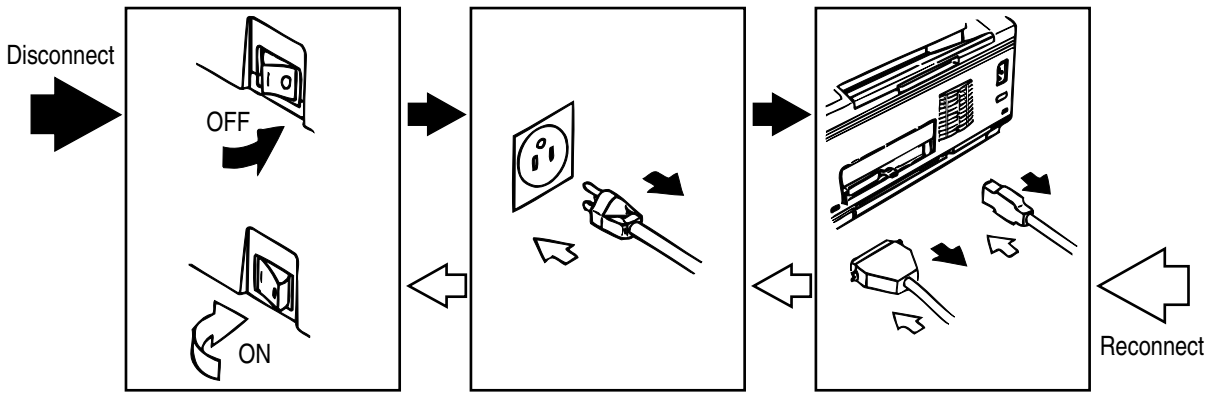
There is a risk of electric shock during replacement of the low voltage power supply.

Use insulating gloves or avoid direct contact with any conducting part of the power supply, and caution should be exercised during replacement.

The capacitor may take one minute to complete discharge after the AC cord is unplugged. Also, there is a possibility that the capacitor doesn’t discharge because of a breakage of the PCB, etc., so remember the possibility of electric shock to avoid electric shock.

(b) Reconnect the printer in the following procedure.

i) Connect the AC cord and interface cable to the printer.
ii) Connect the AC inlet plug to the AC receptacle.
iii) Turn on (“I”) the power switch of the printer.



(2) Do not disassemble the printer as long as it is operating normally.

(3) Do not remove parts which do not have to be touched; try to keep the disassembly to a minimum.

(4) Use specified service tools.

(5) When disassembling, follow the laid out sequences. Parts may be damaged if these sequences are not followed.

(6) Since screws, collars and other small parts are likely to be lost, they should temporarily be attached to the original positions during disassembly.

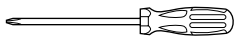
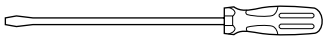
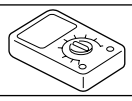
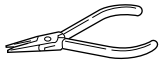
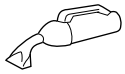
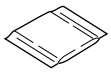
(7) When handling IC’s such as microprocessors, ROMs and RAMs, or circuit boards, do not wear gloves that are likely to generate static electricity.

(8) Do not place printed circuit boards directly on the equipment or floor.

[Service Tools]

The tools required for field replacement of printed circuit boards, assemblies and units are listed in Table 2-1.

Table 2-1 Service Tools

No.	Service Tools		Q' ty	Application	Remarks
1		No. 1-100 Philips screwdriver	1	2~2.5 mm screws	
2		No. 2-100 Philips screwdriver	1	3~5 mm screws	
3		No. 3-100 screwdriver	1		
4		No. 5-200 screwdriver	1		
5		Digital multimeter	1		
6		Pliers	1		
7		Handy cleaner	1		Reter to the following note.
8		LED Head cleaner	1	Cleans LED head	

Note! Use a vacuum cleaner dealing with toner. Using a common vacuum cleaner may cause fire.

2.2 Parts Layout

This section explains the layout of main components of the equipment.

[Lower base unit]

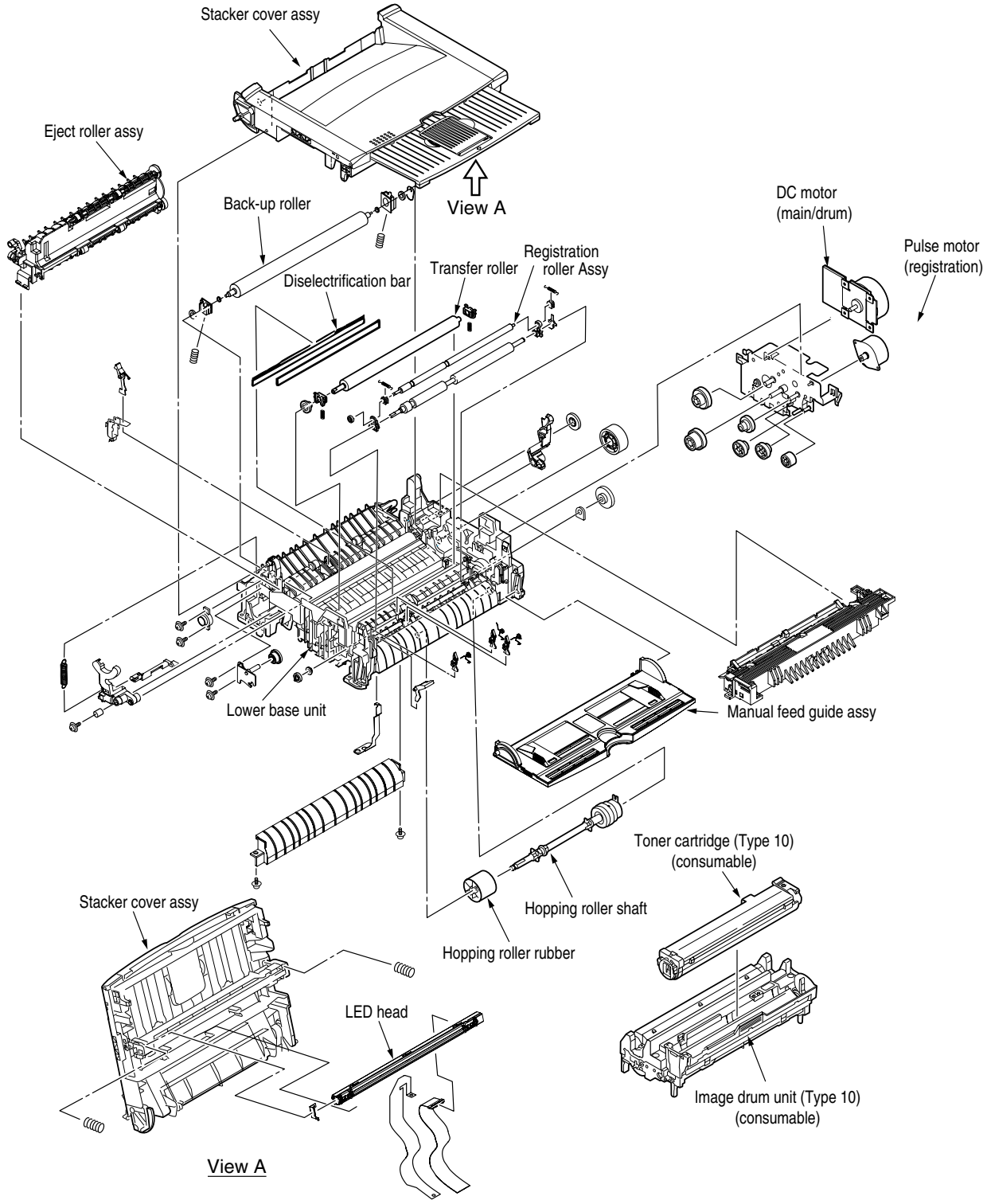


Figure 2-1

[Upper cover unit]

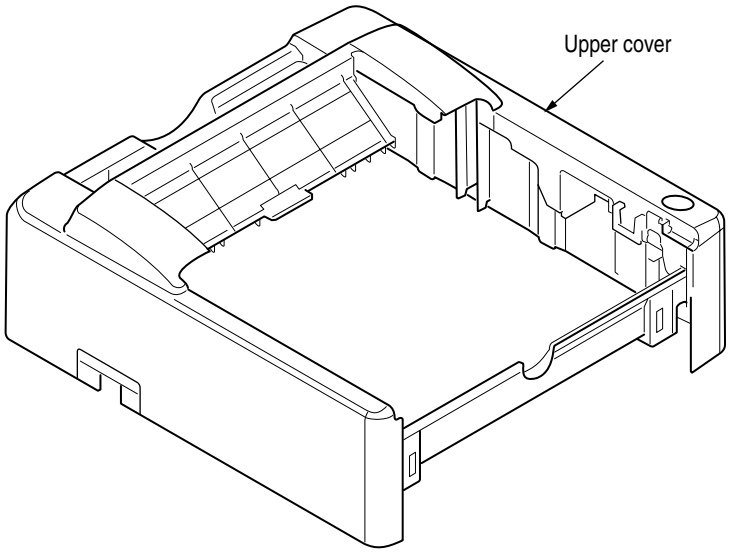


Figure 2-2

[Base unit]

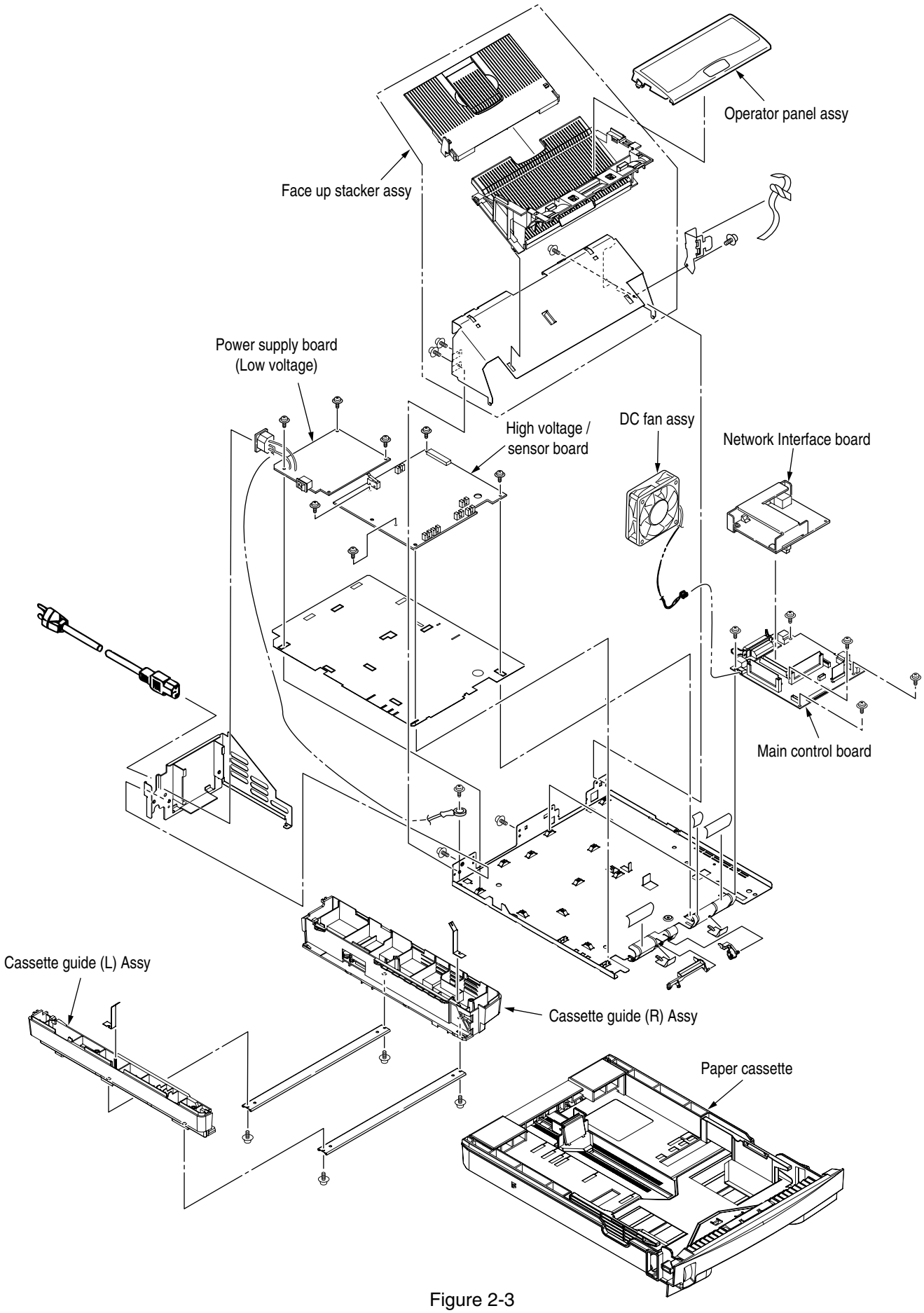
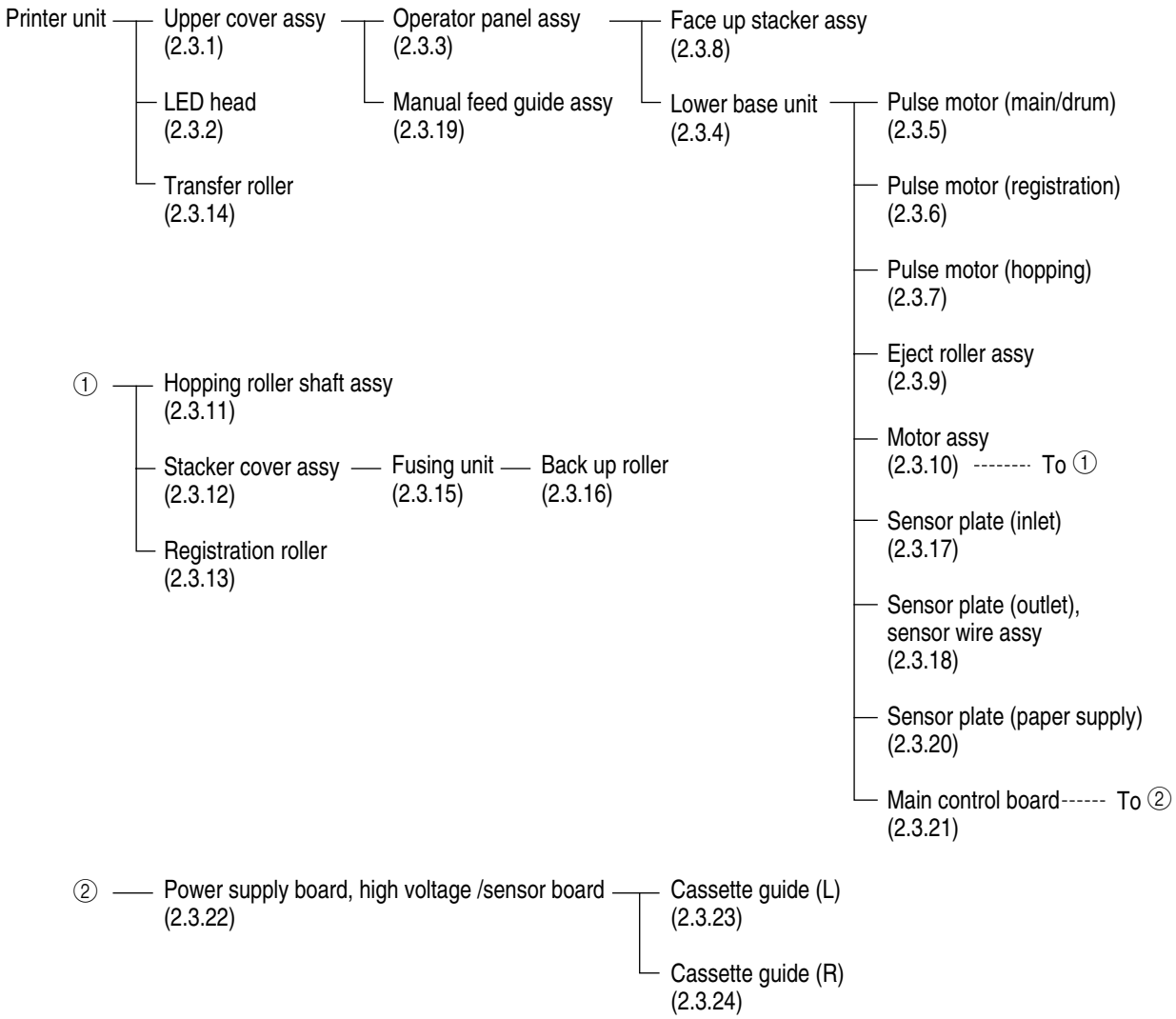


Figure 2-3

2.3 How to Change Parts

This section explains how to change parts and assemblies listed in the disassembly diagram below.

In the parts replacement procedure, those parts marked with the part number inside ● with white letters are RSPL parts.


Printer unit
Upper cover assy (2.3.1)
LED head (2.3.2)
Transfer roller (2.3.14)
Operator panel assy (2.3.3)
Manual feed guide assy (2.3.19)
Face up stacker assy (2.3.8)
Lower base unit (2.3.4)
Pulse motor (main/drum) (2.3.5)
Pulse motor (registration) (2.3.6)
Pulse motor (hopping) (2.3.7)
Eject roller assy (2.3.9)
Motor assy (2.3.10) -------- To ①
Sensor plate (inlet) (2.3.17)
Sensor plate (outlet), sensor wire assy (2.3.18)
Sensor plate (paper supply) (2.3.20)
Main control board------ To ② (2.3.21)
①
Hopping roller shaft assy (2.3.11)
Stacker cover assy (2.3.12)
Fusing unit (2.3.15)
Back up roller (2.3.16)
Registration roller (2.3.13)
②
Power supply board, high voltage /sensor board (2.3.22)
Cassette guide (L) (2.3.23)
Cassette guide (R) (2.3.24)

2.3.1 Upper Cover Assy

(1) With the power switch turned off, unplug the AC power cord from the outlet.

(2) Disconnect the interface cable ①.

(3) Press the button ② on right side of the Upper cover and open the stacker cover assy ❸.

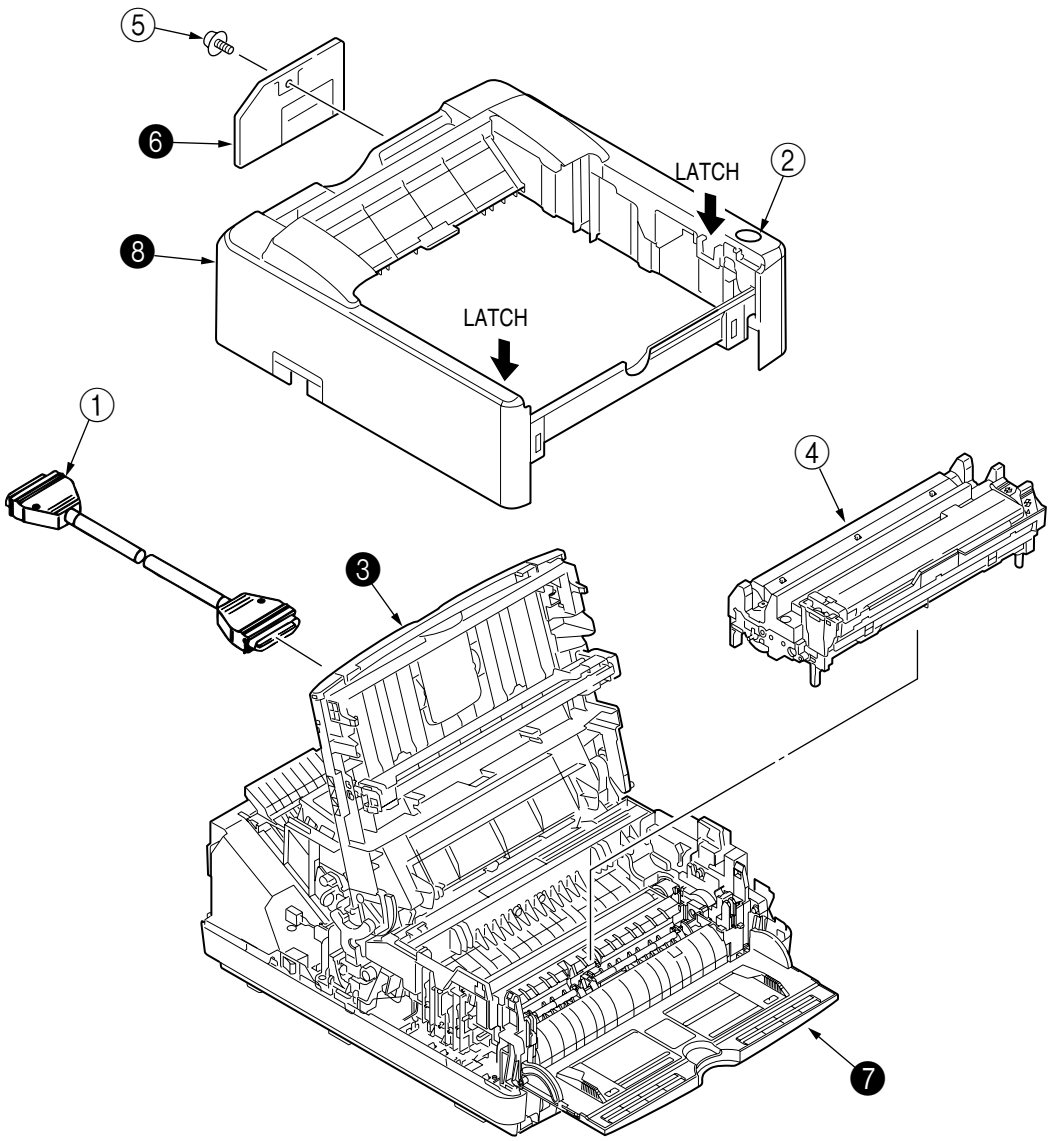
(4) Take out the image drum unit ④.

(5) Remove one screw ⑤, and remove the I/F cover ❻ from the back side of the printer.

(6) Open the manual feed guide assy ❼. Unlock the latches at two locations on the front side. Lift the front side of the upper cover ❽ up and unlock the latches at two locations on the back side. Lift and remove the upper cover assy ❽.

Note : 1. When removing or reinstalling the upper cover, be careful not to get the motor cables tangled or caught.

2. Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



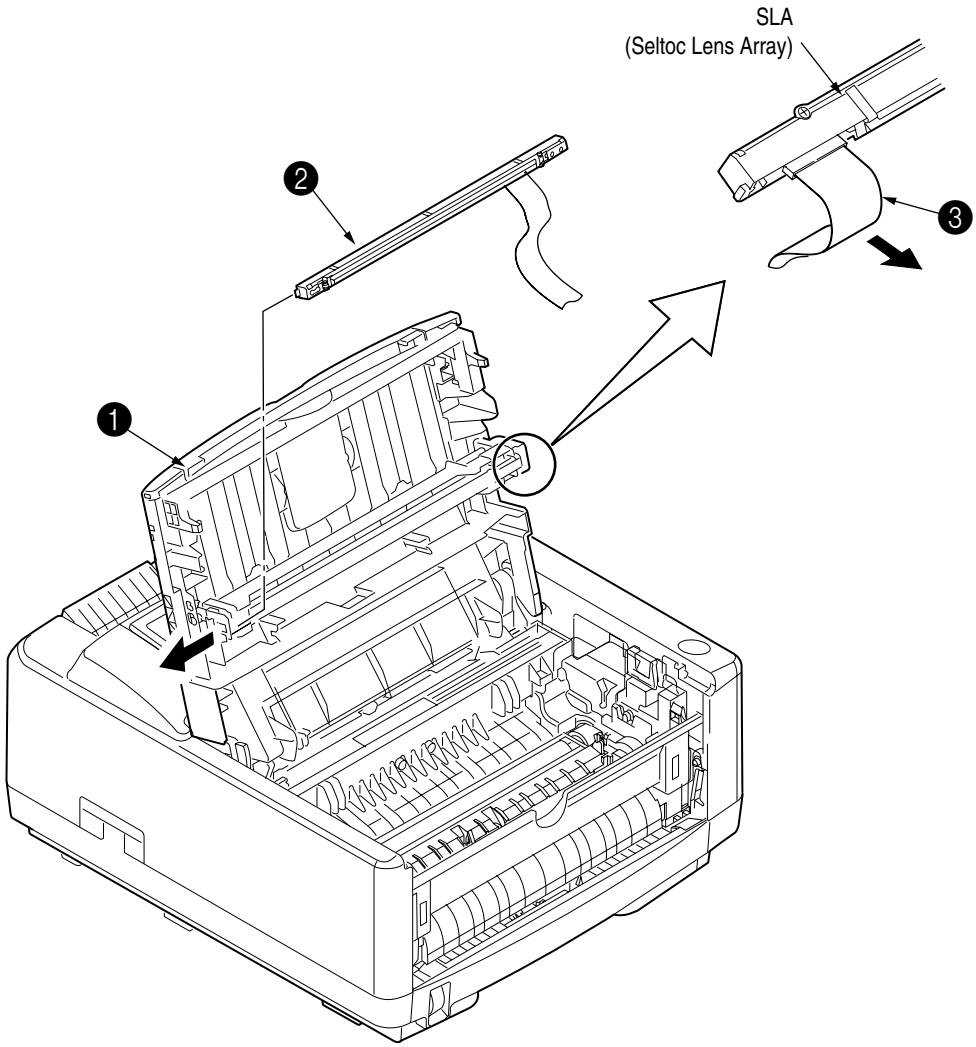
2.3.2 LED Head

(1) Press the button on right side of the upper cover and open the stacker cover assy ❶.

(2) Open the hook section on the left side of the head holder and remove the LED head ❷.

(3) Remove the head cable ❸ from the head connector.

Note: Be sure not to touch directly or push on the SLA part of the LED head.

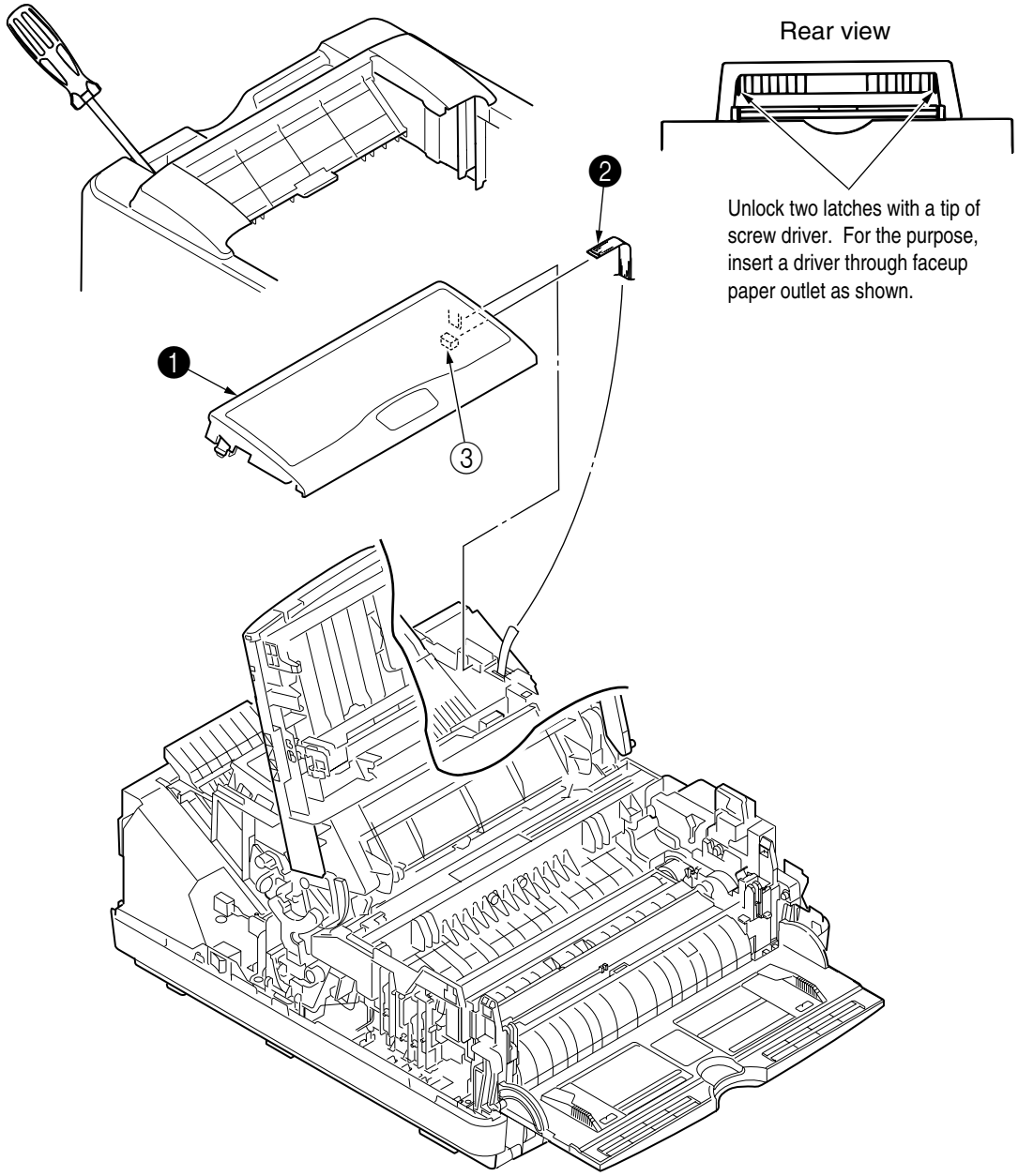


2.3.3 Operator Panel Assy

(1) Unlock two latches on the upper cover from the rear side, lift the operator panel assy ❶ from the back and remove it.

(2) Remove the cable ❷ from the connector (CN1) ③.

Note : You can remove the operator panel assy while the upper cover installed on the unit. However, it is much easier to remove the panel assy after removal of upper cover.


Rear view
Unlock two latches with a tip of screw driver. For the purpose, insert a driver through faceup paper outlet as shown.
❷
❶
③

2.3.4 Lower Base Unit

(1) Remove the upper cover assy (see 2.3.1).

(2) Remove the operator panel assy (see 2.3.3).

(3) Remove the face up stacker assy (see 2.3.7).

(4) Disengage the latch from the paper guide R ⑬ and remove the paper guide R ⑬.

(5) Remove the connecting cables ①, ② and ③ of the motors and clutch from the connectors (DM, RM, CLT) of the main control board ❹.

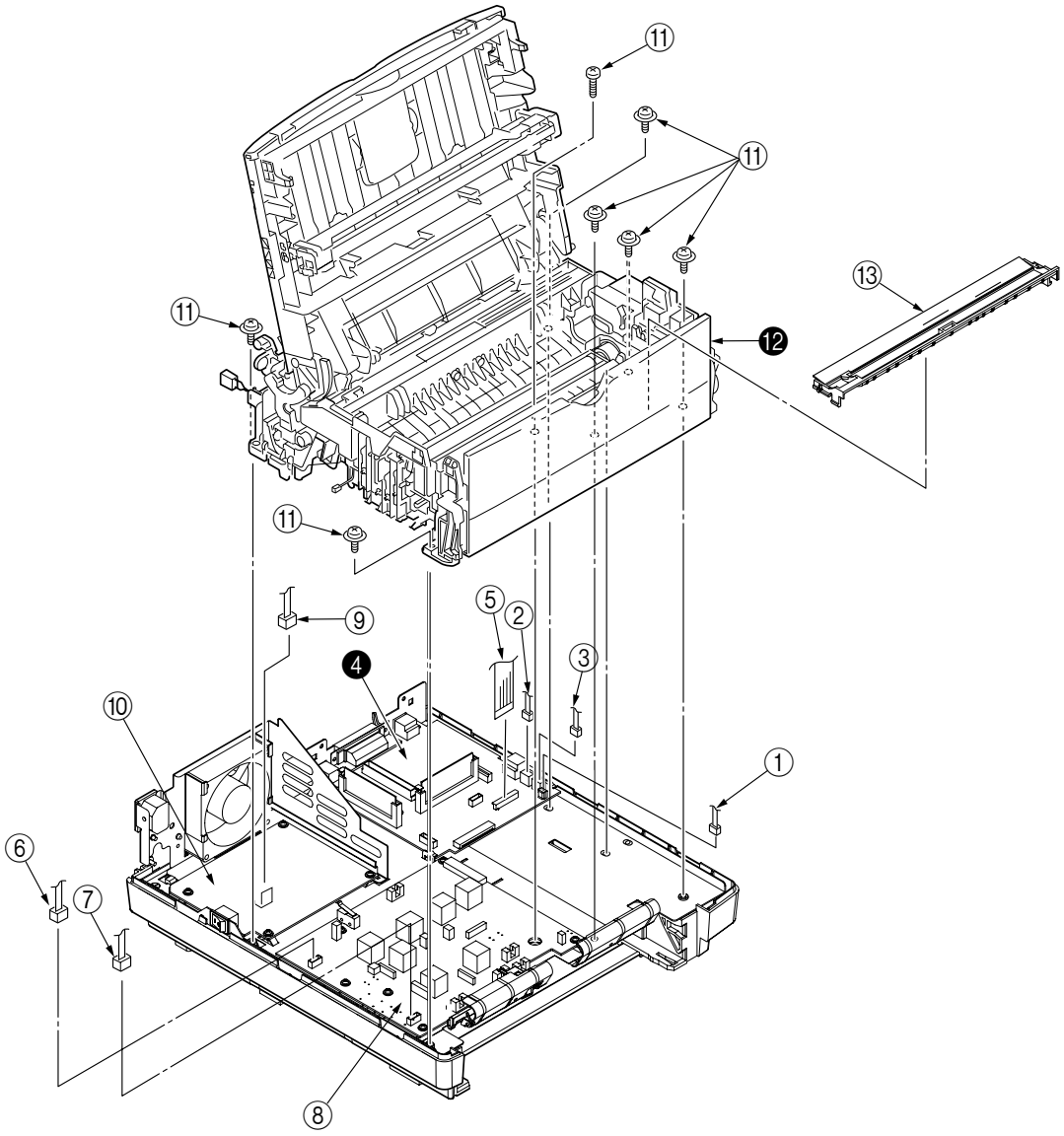
(6) Remove the LED head cables ⑤ from the connector (HEAD) of the main control board ❹.

(7) Remove the Thermistor cable ⑥ and cable ⑦ from the connector (CN2, CN101) of the high voltage/ sensor board.

(8) Remove the connecting cable ⑨ of the heater from the connector (CN2) of the power supply board ⑩.

(9) Open the manual feed guide assy, remove seven screws ⑪, then remove the lower base unit ⓬.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



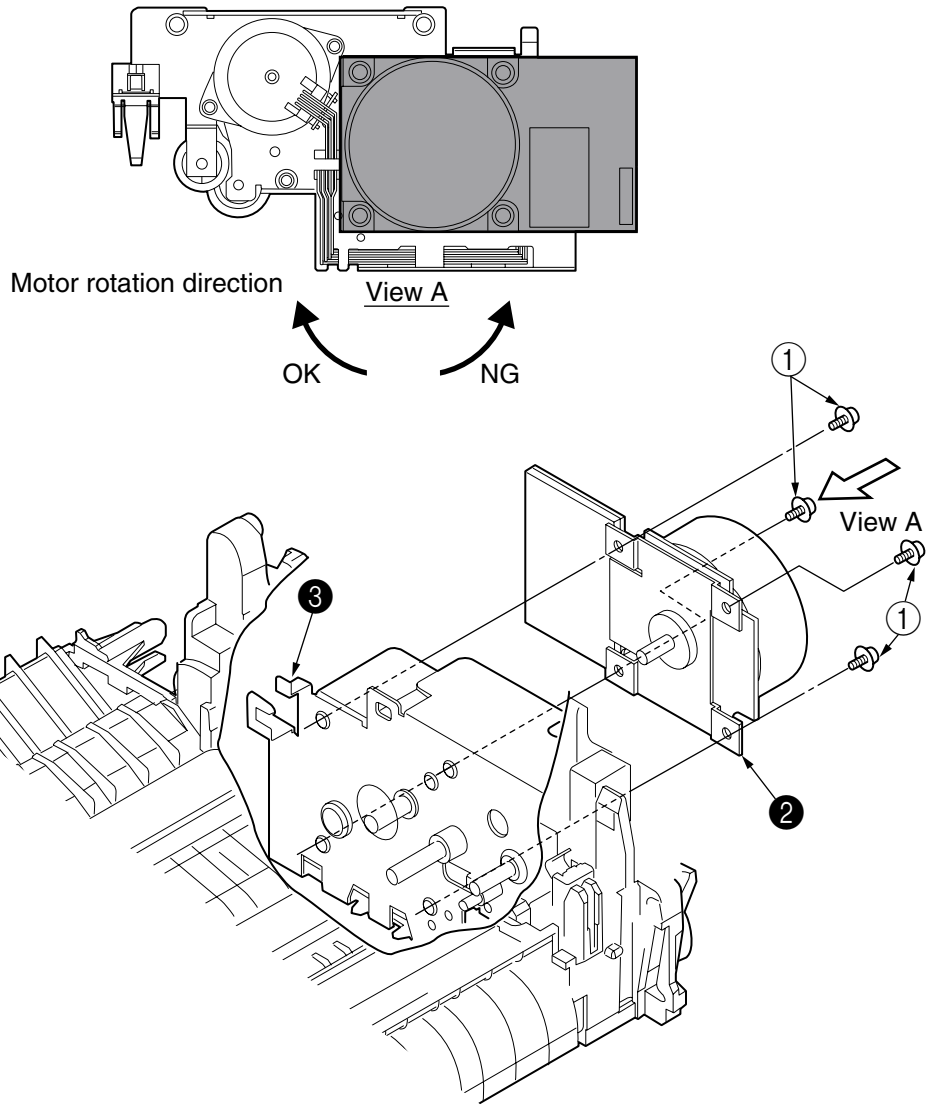
2.3.5 DC Motor (Main/Drum)

(1) Remove the upper cover assy (see 2.3.1).

(2) Remove the lower base unit (see 2.3.4).

(3) Remove four screws ① and remove the DC motor (main/drum) ❷ from the motor bracket ❸.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



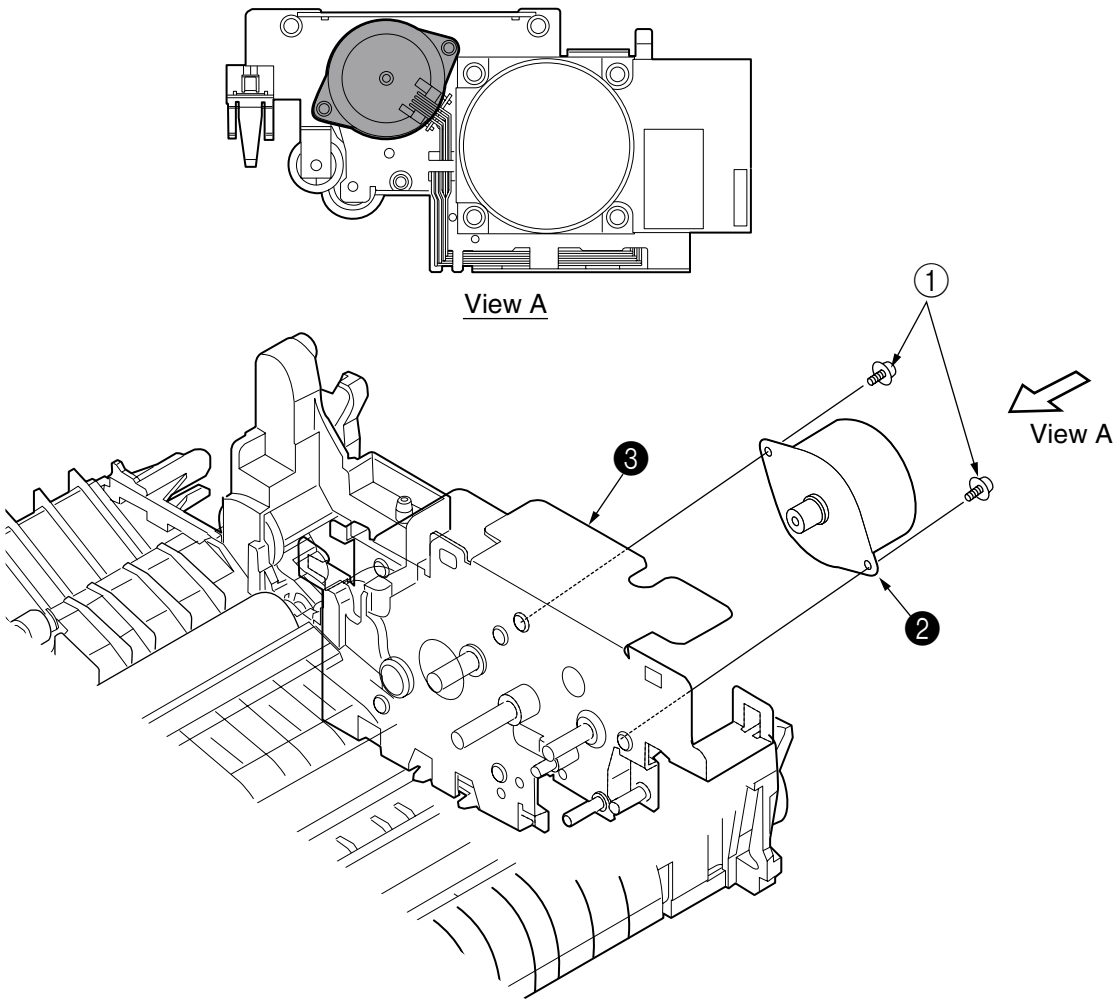
2.3.6 Pulse Motor (Registration)

(1) Remove the upper cover assy (see 2.3.1).

(2) Remove the lower base unit (see 2.3.4).

(3) Remove two screws ① and remove the pulse motor (registration) ❷ from the motor bracket ❸.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.7 Clutch

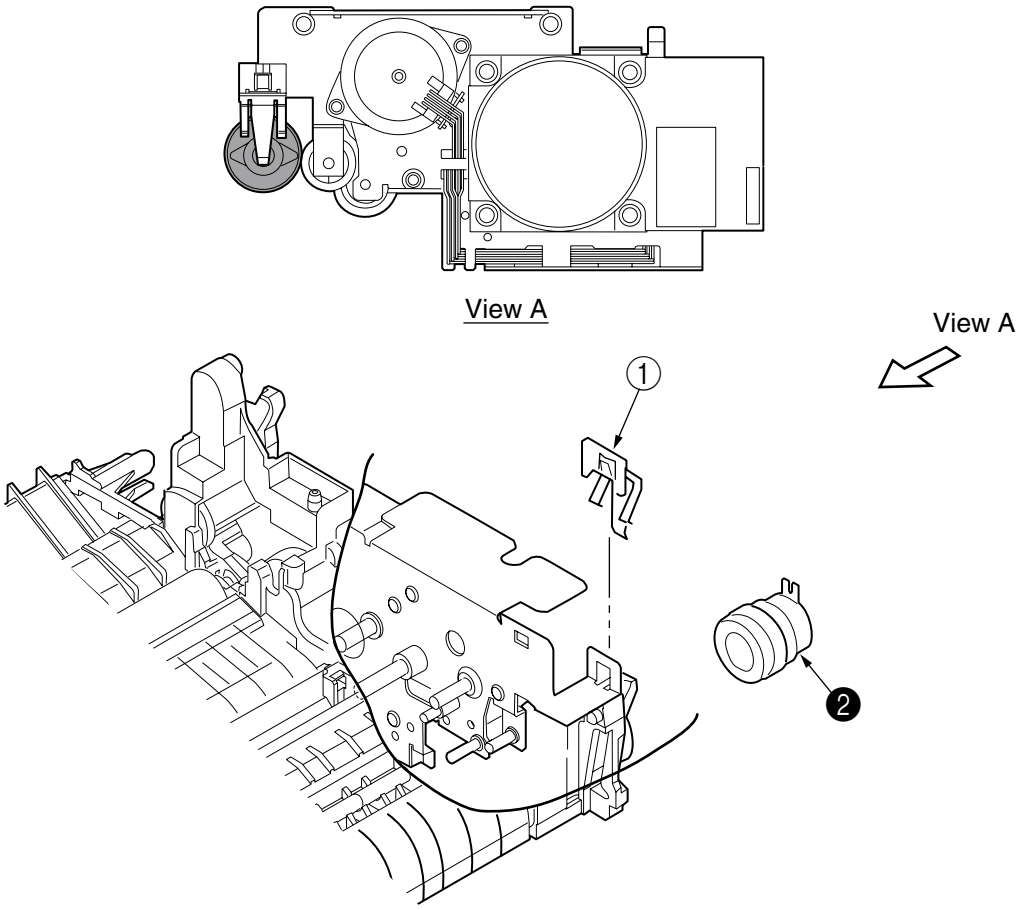
(1) Remove the upper cover assy (see 2.3.1).

(2) Remove the lower base unit (see 2.3.4).

(3) Remove the Plate-FG ① and remove the clutch ❷.

(4) To attach the clutch , do the operation in the reverse way of the detachment.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.8 Face Up Stacker Assy

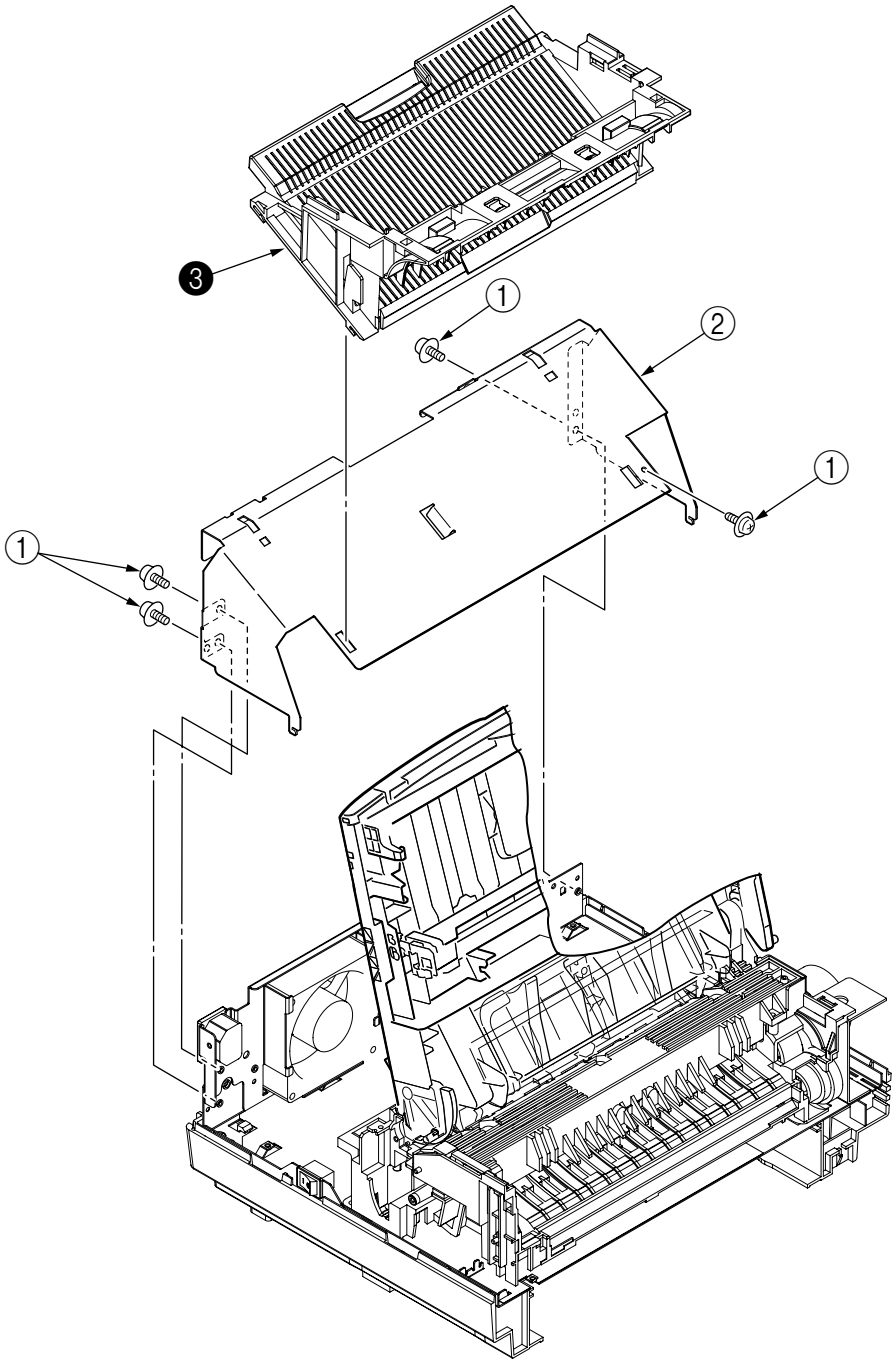
(1) Remove the upper cover assy (see 2.3.1).

(2) Remove the operator panel assy (see 2.3.3).

(3) Remove four screws ① and remove both the shield plate ② and face up stacker ❸ together.

(4) Unlock the latches at two locations, and remove the face up stacker ❸.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.9 Eject Roller Assy

(1) Remove the upper cover assy (see 2.3.1).

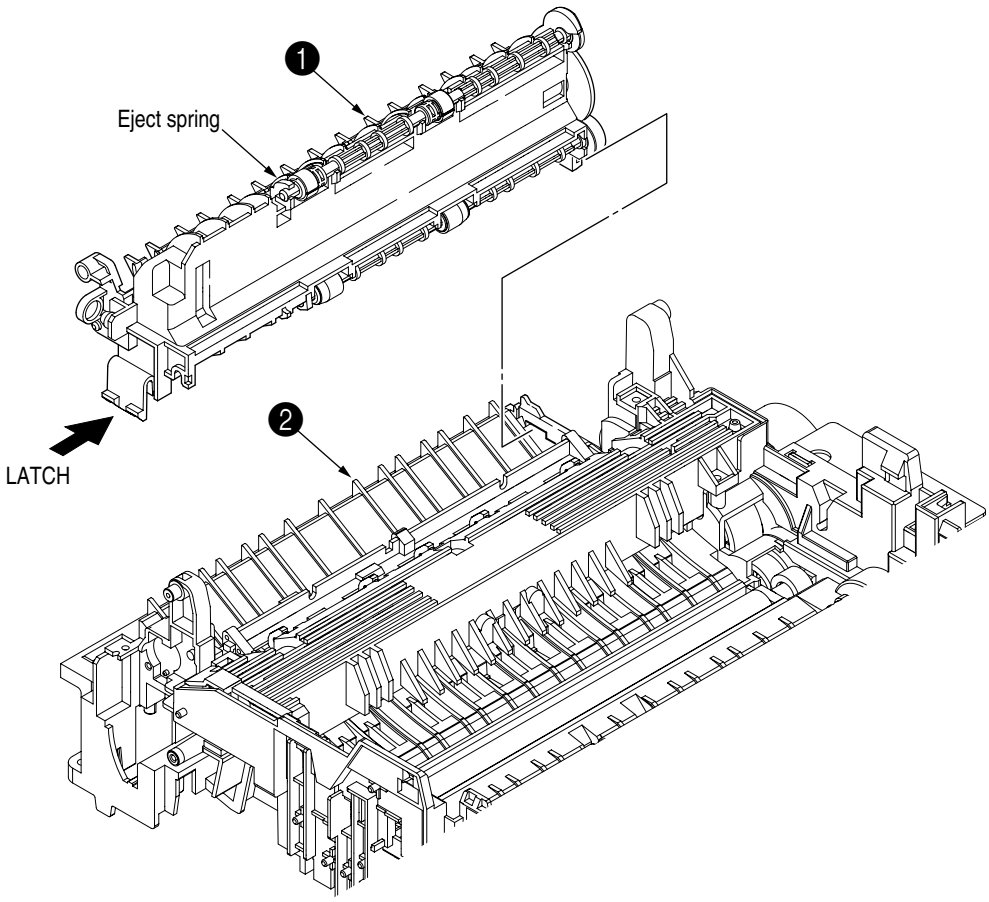
(2) Remove the operator panel assy (see 2.3.3).

(3) Remove the face up stacker assy (see 2.3.8).

(4) Remove the stacker cover assy (see 2.3.12).

(5) Disengage the eject roller assy ❶ from the lower base ❷ by pressing the latch section of the eject roller assy ❶ in the direction of the arrow shown below, and remove the eject roller assy ❶.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.10 Motor Assy

(1) Remove the upper cover assy (see 2.3.1).

(2) Remove the operator panel assy (see 2.3.3).

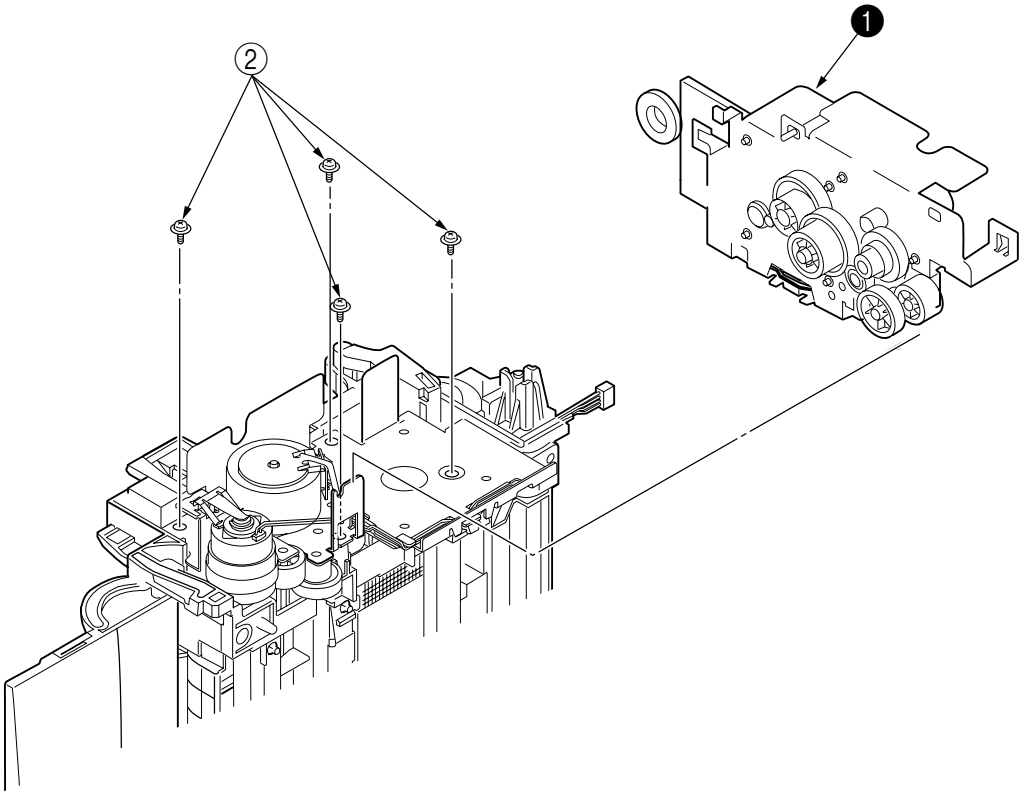
(3) Remove the face up stacker assy (see 2.3.8).

(4) Remove the lower base unit (see 2.3.4).

(5) Remove the DC Motor (see 2.3.5).

(6) Remove the four screws ② and remove the bracket-Motor ❶ from the Motor bracket.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.11 Hopping Roller Shaft Assy

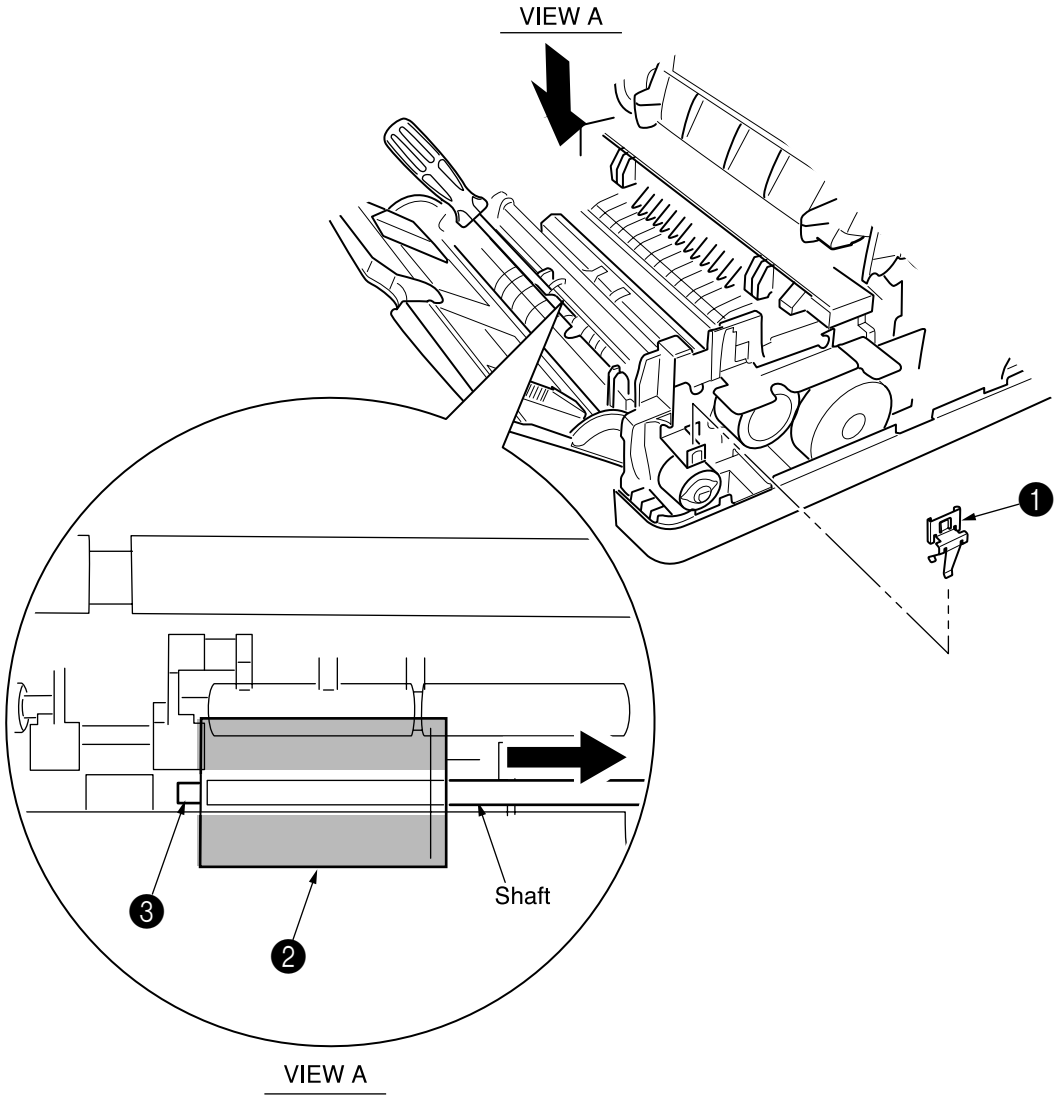
(1) Remove the upper cover. (Refer to Section 2.3.1)

(2) Remove the plate FG ❶.

(3) Release the latch ❸ of the hopping roller Assy ❷, slide the shaft to the direction of the arrow and detach the hopping roller Assy ❷.

(4) To attach the hopping roller Assy, do the operation in the reverse way of detachment.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.12 Stacker Cover Assy

(1) Remove the upper cover assy (see 2.3.1).

(2) Remove the operator panel assy (see 2.3.3).

(3) Remove the face-up stacker assy (see 2.3.8).

(4) Remove the motor assy (see 2.3.10).

(5) Remove the reset lever R ❶.

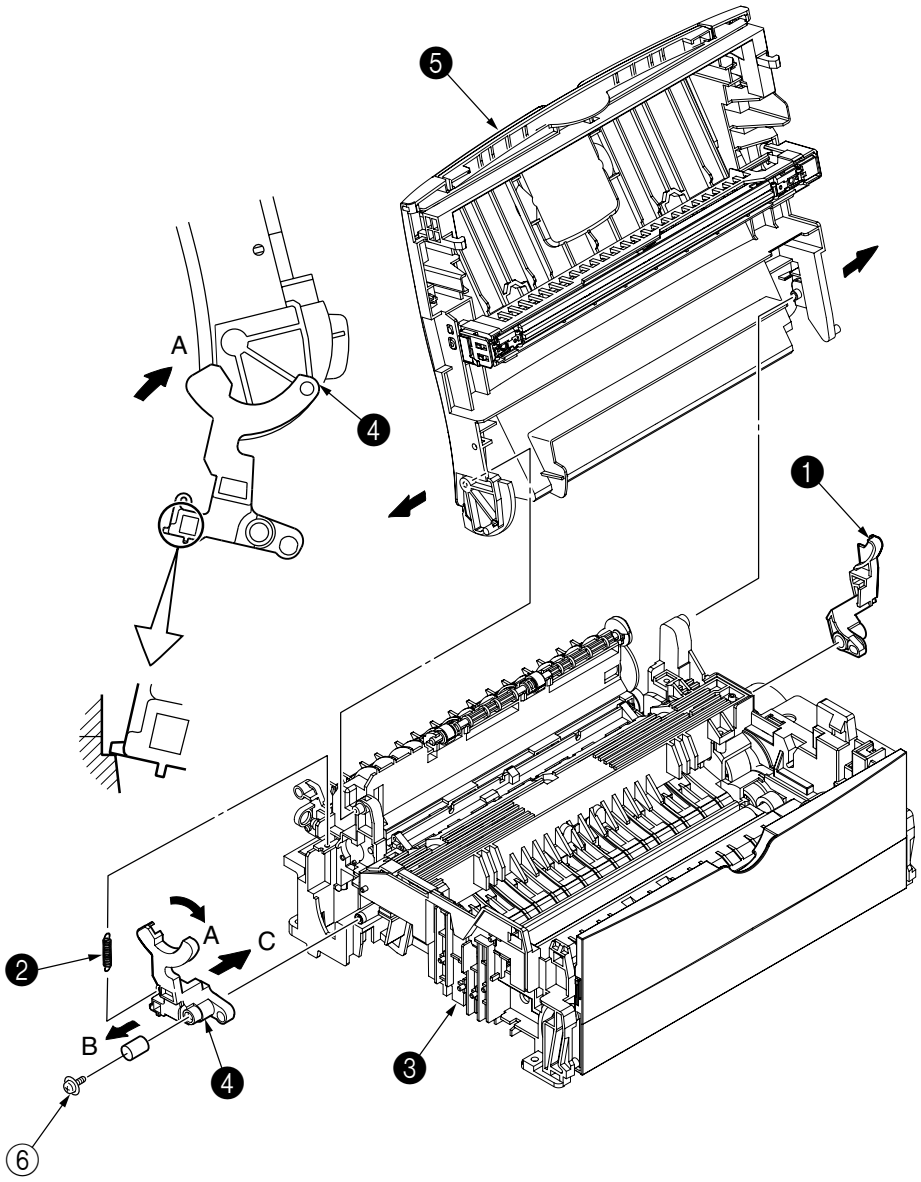
(6) Remove the reset spring ❷ from the lower base unit ❸. Remove the screw ⑥, rotate the reset lever L ❹ fully in the direction of arrow A until it stops, and remove it in the direction of arrow B.

(7) Disengage the two latches from the lower base unit ❸ and remove the stacker cover assy ❺.

(8) For installation, perform the removal procedure in reverse order.

Note : ***1.*** When reinstalling the reset lever L 4, fit it onto the guide of the lower base unit ❸, turn it in the direction of arrow C while pressing down the shaft of back up roller, and engage the reset lever L ❹.

2. Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.13 Registration Roller

(1) Remove the upper cover (see 2.3.1).

(2) Remove the operator panel assy (see 2.3.3).

(3) Remove the face up stacker assy (see 2.3.8).

(4) Remove the lower base unit (see 2.3.4).

(5) Remove the motor assy (see 2.3.10).

(6) With the lower base unit standing on its side, remove the one-way clutch gear ❶ and the bearing ❷.

(7) Remove the Registration Gear by unloking the latch of the Gear ❸.

(8) Remove the Registration Bearing L ❹.

(9) Press the registration roller ❺ in the direction of arrowA and lift up the left side of it, then remove the registration roller Assy ⑥.

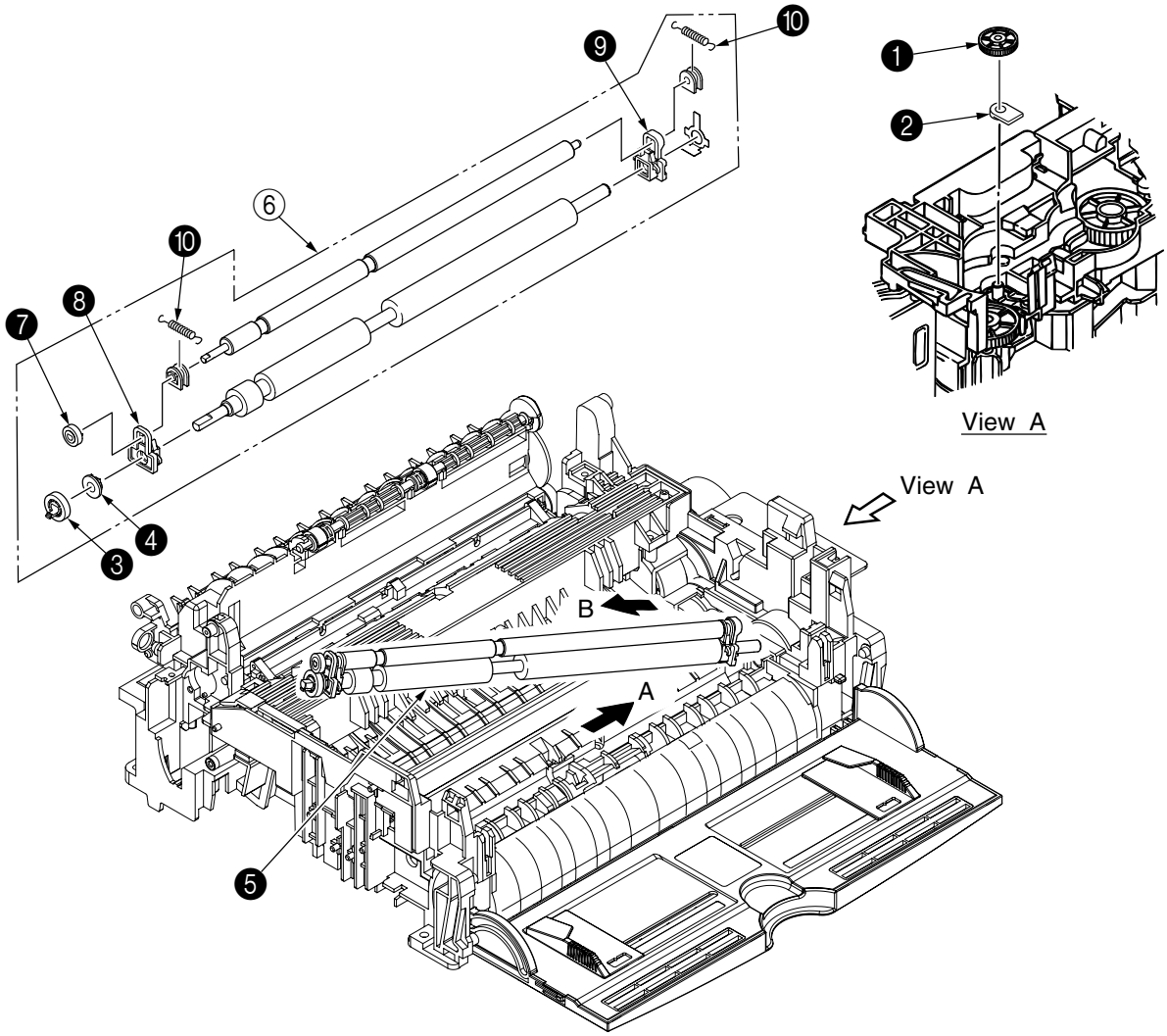
(10) Pull out the registration roller Assy ⑥ in the direction of arrowB.

(11) Remove the pressure roller Assy gear ❼ by unloking the latch of the gear ❼.

(12) Remove the bearing-Registration L ❽ and bearing Registration R ❾.

(13) Remove the Spring ❿ from the bearing ❽, ❾.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.14 Roller Transfer Assy

(1) In the power switch off, unplug the AC code from the outlet.

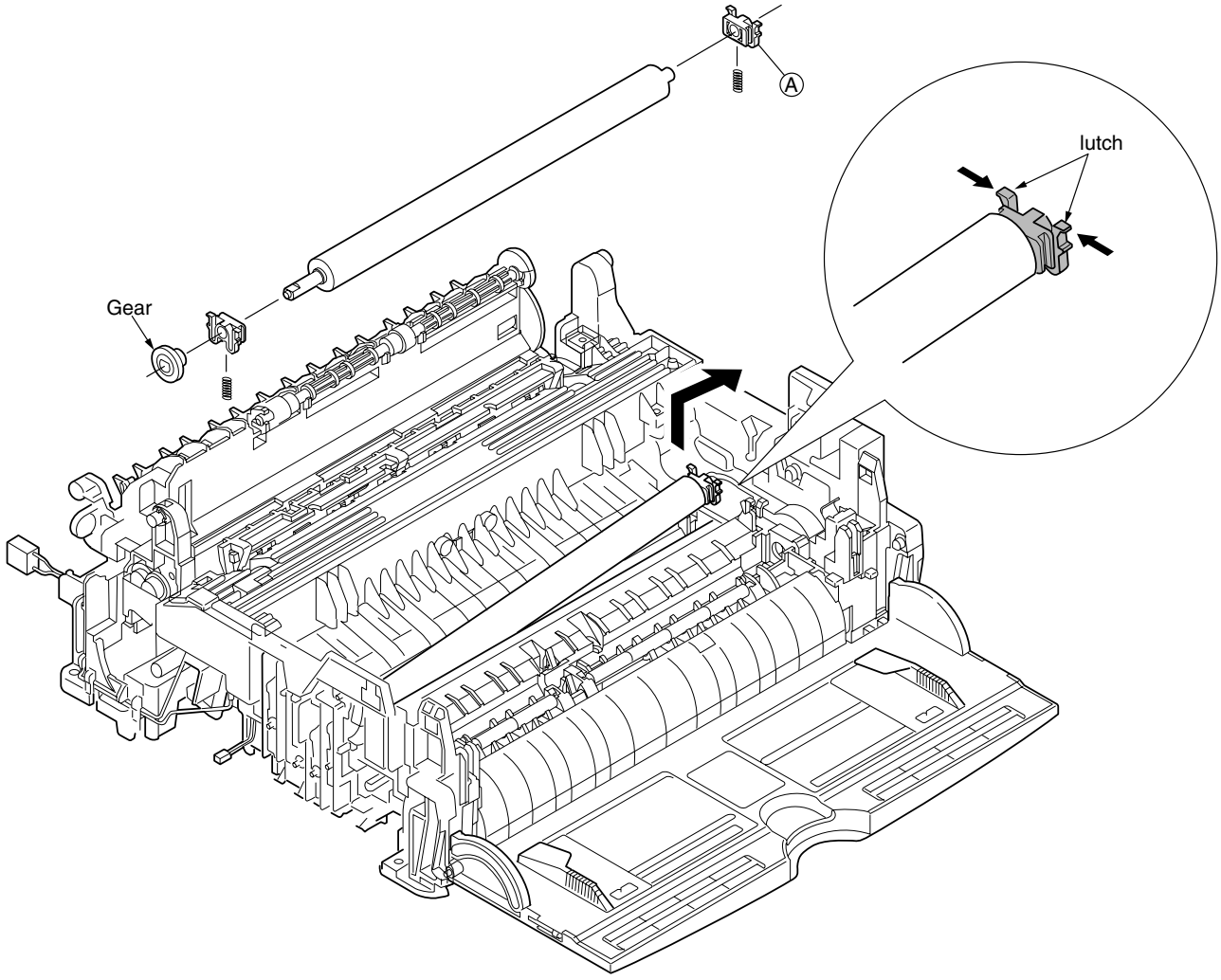
(2) Open the stacker cover.

(3) Remove two latches from the bearing Ⓐ on the opposite side of the gear. (When you release a latch, do not add the excess force.)

(4) Slide the transfer roller to the right side a little and detach the post in the end part of the gear from the lower base unit to release two latches of the bearing in the gear side.

(5) Holding the bearing, lift up the transfer roller Assy. (The transfer roller Assy and gear will be also detached in this time.)

(6) To attach the transfer roller Assy, do the operation in the reverse way of detachment. Be careful about the vertical direction of the bearing of the transfer roller Assy.



2.3.15 Fusing Unit

(1) Remove the upper cover (see 2.3.1).

(2) Remove the operator panel assy (see 2.3.3).

(3) Remove the face up stacker assy (see 2.3.8).

(4) Remove the lower base unit (see 2.3.4).

(5) Remove the stacker cover assy (see 2.3.12).

(6) Remove the connecting cable ① of the heater and connecting cable ② of the thermistor from the hooks of the lower base.

(7) Remove four screws ③, lift and remove the fusing unit ❹.

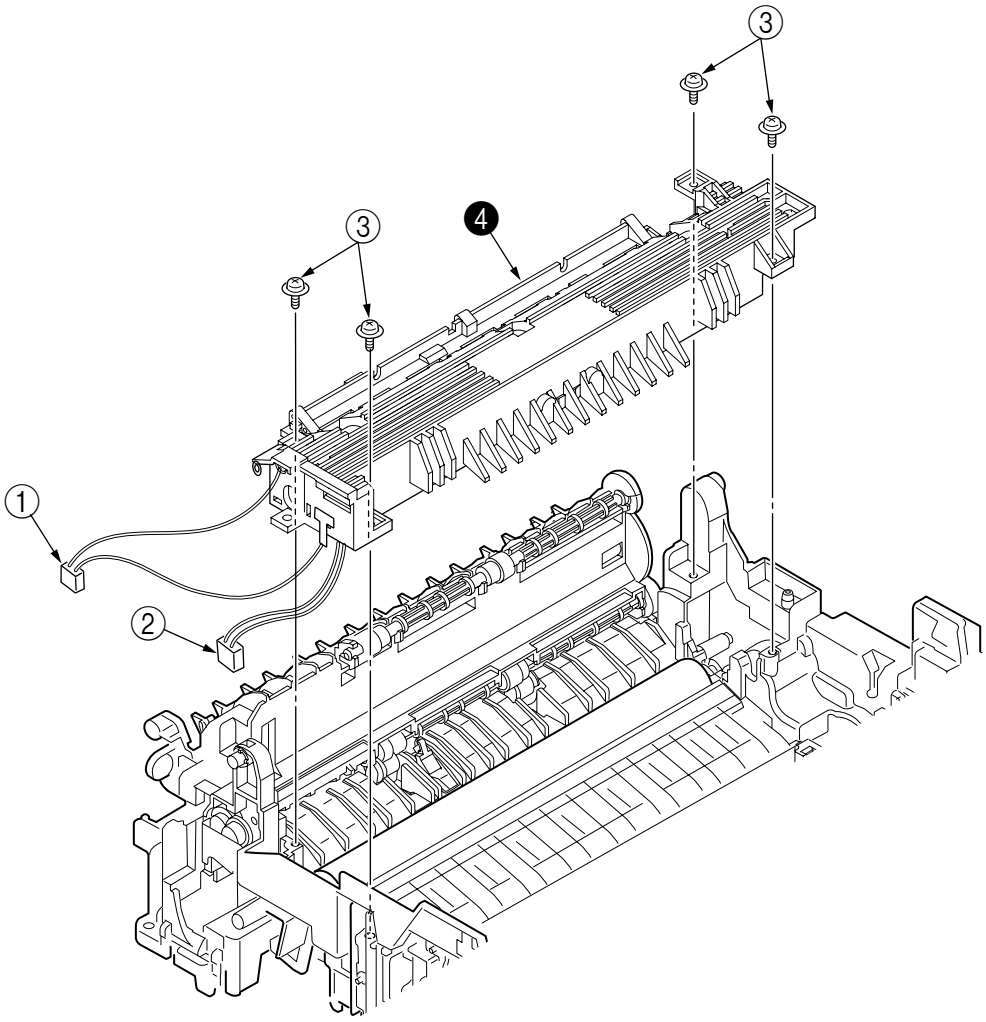
Caution: Fusing unit may be hot. Use care when handling.

Notes : 1. When reinstalling or removing the fusing unit, tighten or loosen the screws while holding the fusing unit assy ❹ down with your hand (it is being pushed up by back up roller).

2. When reinstalling the screws ③, be sure to direct the screws into preexisting thread and avoid damaging the threads.

3. Do not apply excessive torque when tightening the screws ③.

4. Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



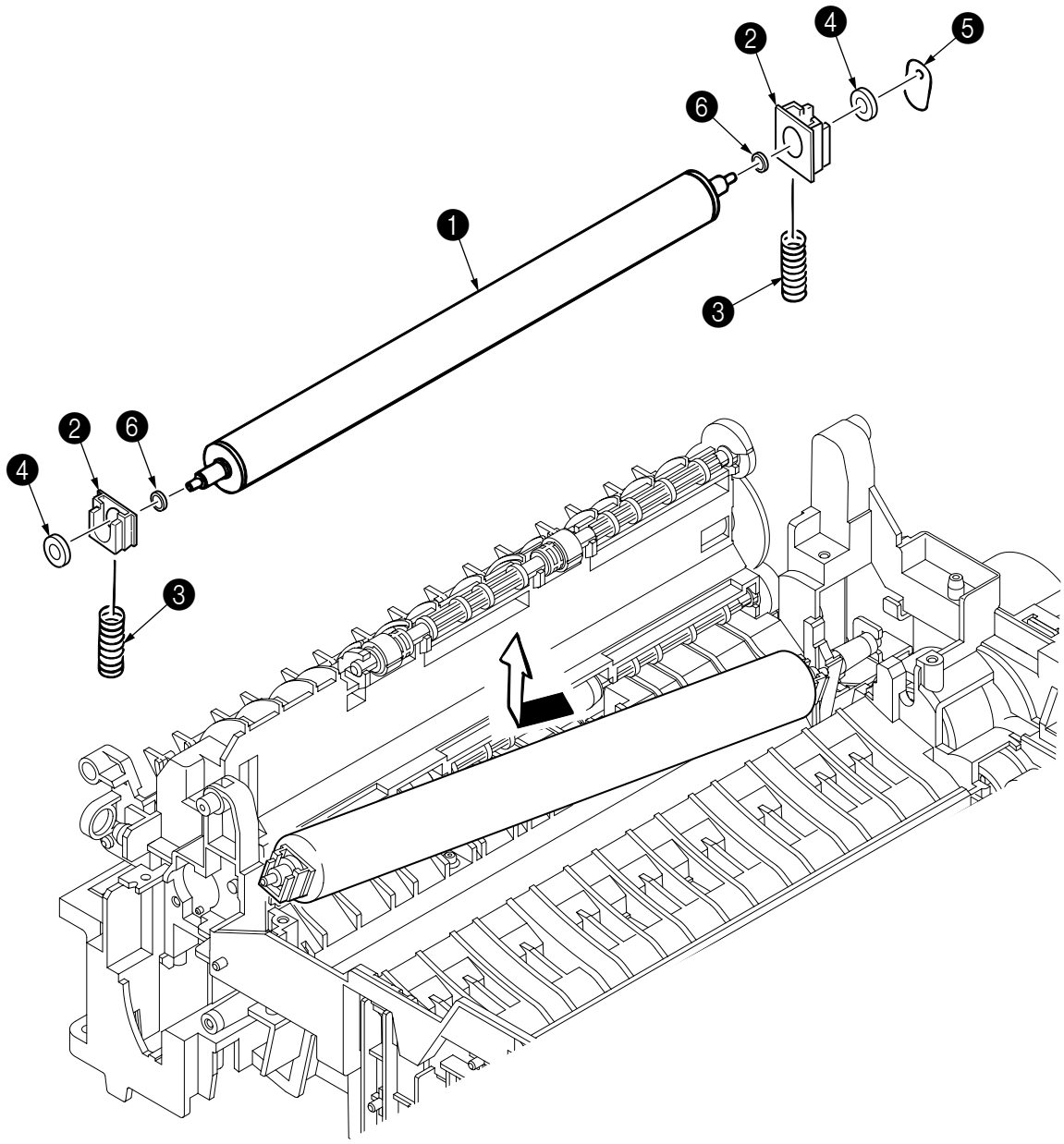
2.3.16 Back-up Roller

(1) Remove the fusing unit assy (see 2.3.15).

(2) Lift the left side of the back-up roller ❶, and pull it out to the left side (at this time, two bearing Holders (back-up) ❷ and the bias springs (back-up) ❸and the two ball-bearings ❹, washer C ❺ will also come off).

(3) Remove the coller ❻ from the back-up roller ❶.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.17 Sensor Plate (Inlet)

(1) Remove the upper cover (see 2.3.1).

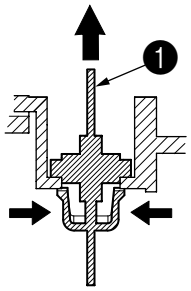
(2) Remove the operator panel assy (see 2.3.3).

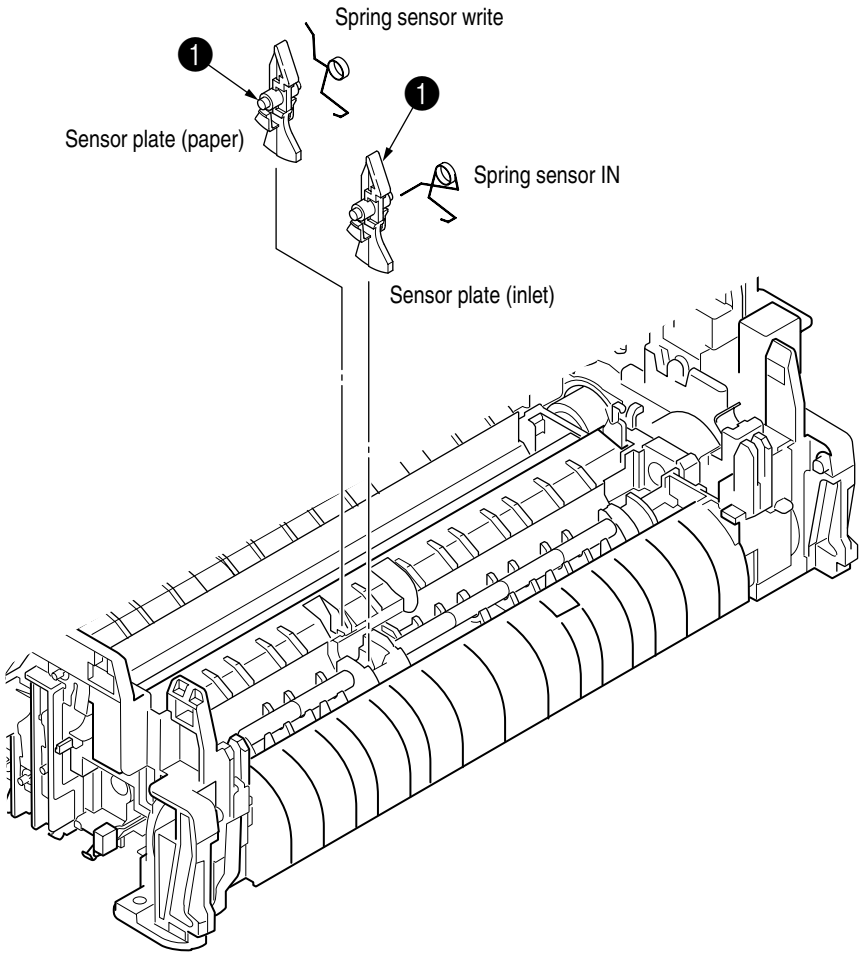
(3) Remove the face up stacker assy (see 2.3.8).

(4) Remove the lower base unit (see 2.3.4).

(5) Press the clamps of three sensor plates (inlet and paper) ❶, and remove them by pressing them upward from the bottom. When removing the sensor plates, take care not to lose the springs.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)





2.3.18 Sensor Plate (Outlet), Sensor Wire Assy

(1) Remove the upper cover assy (see 2.3.1).

(2) Remove the operator panel assy (see 2.3.3).

(3) Remove the eject roller assy (see 2.3.9).

(4) Remove the face up stacker assy (see 2.3.8).

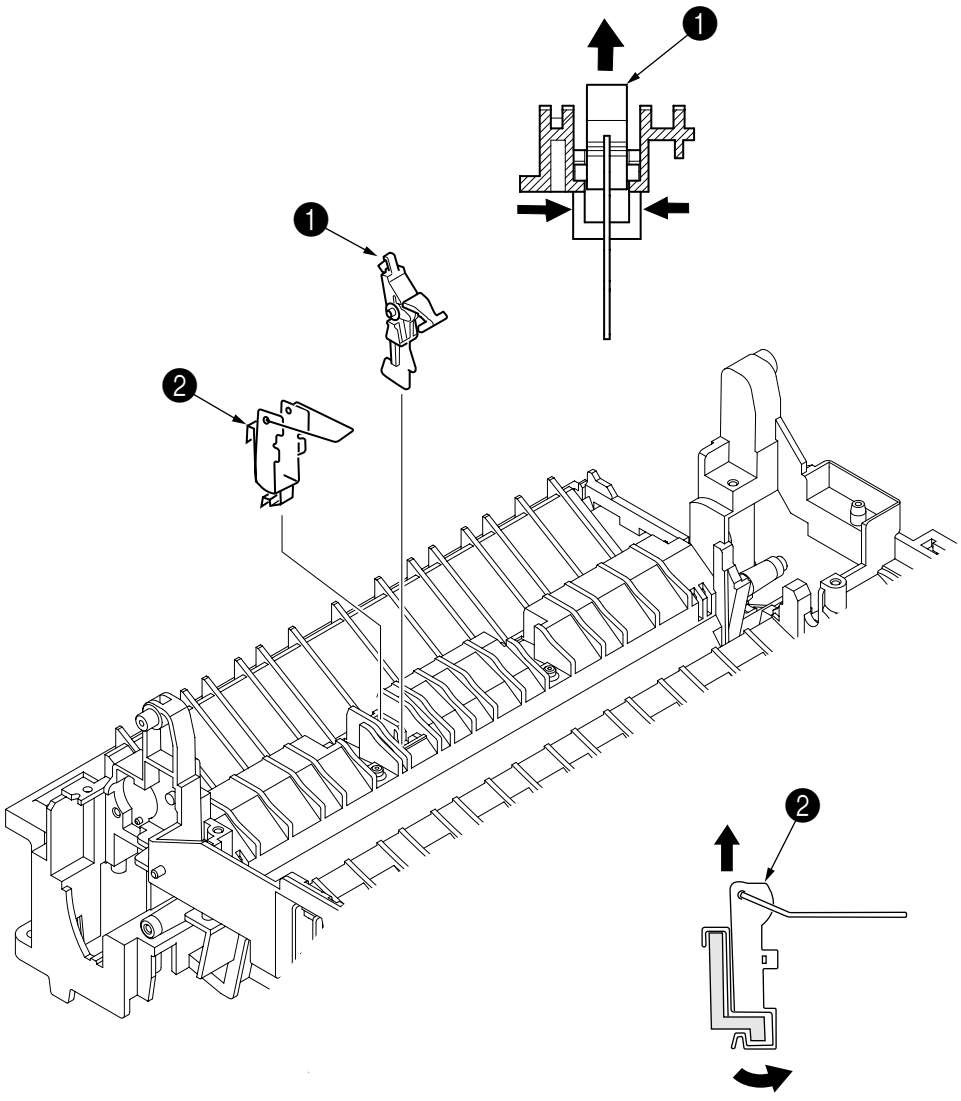
(5) Remove the lower base unit (see 2.3.4).

(6) Remove the fusing unit assy (see 2.3.15).

(7) Press the clamps of the sensor plate (outlet) ❶, and remove the sensor plate by pushing it up.

(8) Turn the clamps of the sensor wire assy ❷ remove the sensor wire assy from the lower base unit.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



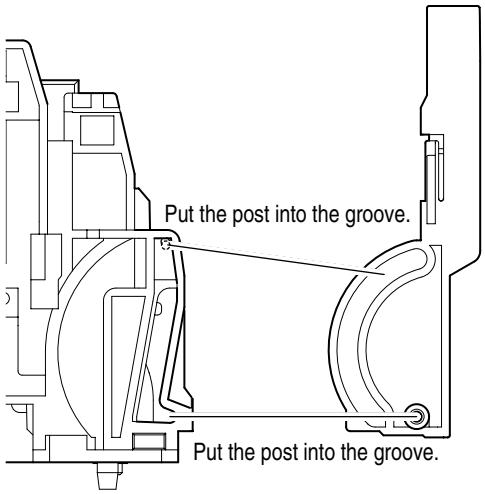
2.3.19 Manual Feed Guide Assy

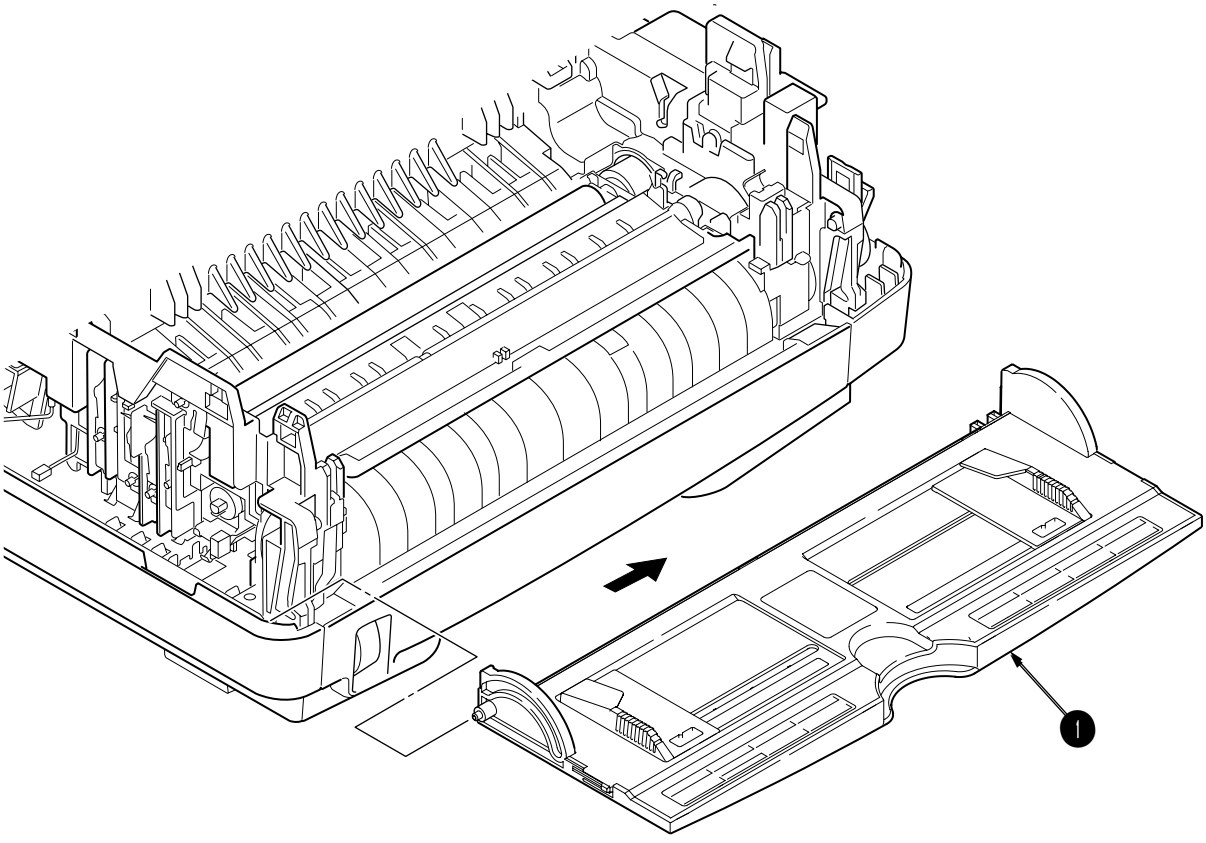
(1) Remove the upper cover assy (see 2.3.1).

(2) Open the manual feed guide assy ❶, and release the engagement on both sides with the main unit by carefully bending the manual feed guide assy ❶.

Note : ***1.*** When remounting, verify the proper the engagements as shown in the diagram.

2. Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)





2.3.20 Sensor Plate (Paper Supply)

(1) Remove the upper cover assy (see 2.3.1).

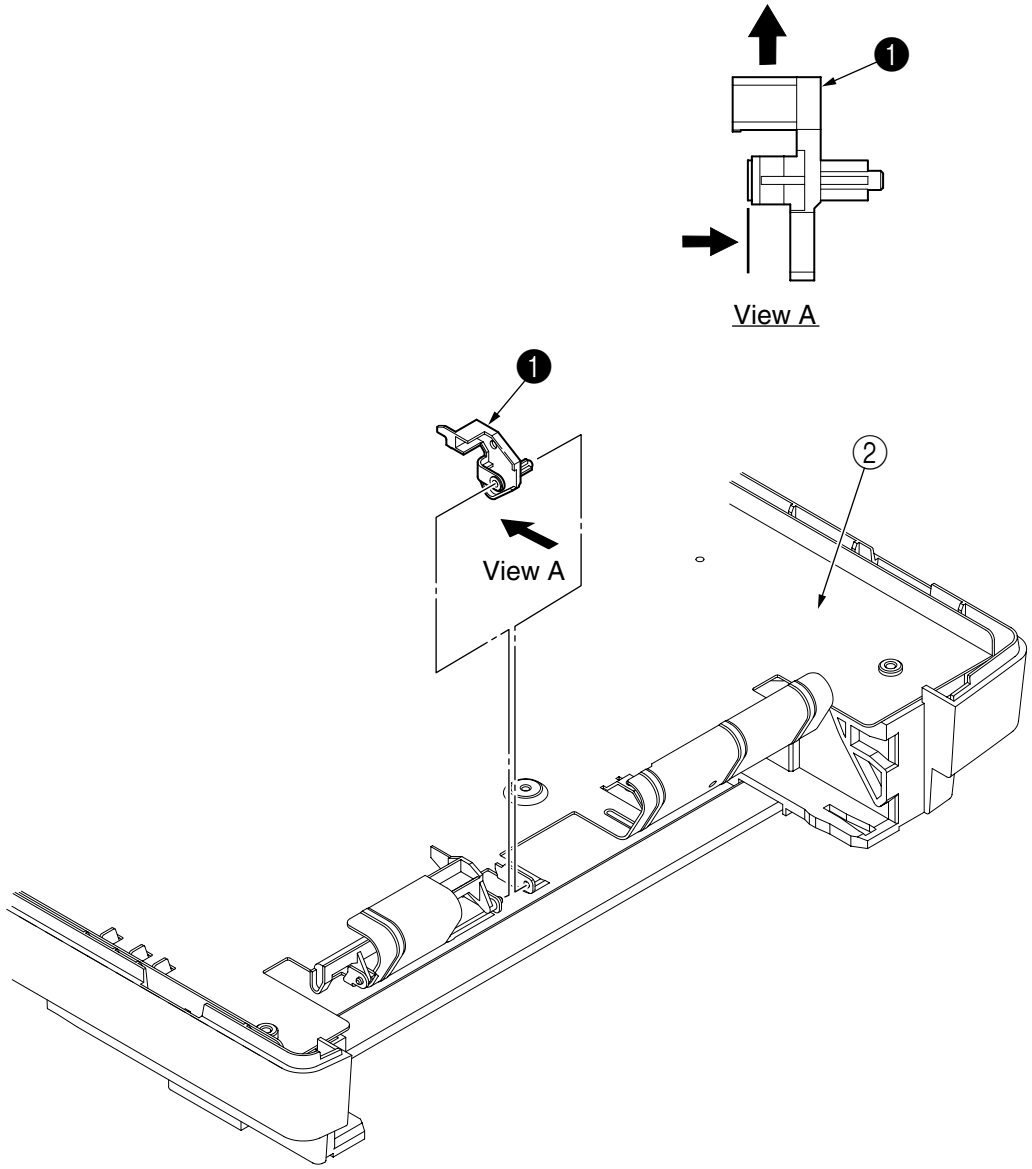
(2) Remove the operator panel assy (see 2.3.3).

(3) Remove the face up stacker assy (see 2.3.8).

(4) Remove the lower base unit (see 2.3.4).

(5) Press the clamps of the sensor plate (paper supply) ❶ to unlock the latch, and remove it from the base plate ②.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.21 Main control board

(1) Remove the upper cover assy (see 2.3.1).

(2) Remove the operator panel assy (see 2.3.3).

(3) Remove the face up stacker assy (see 2.3.8).

(4) Remove the lower base unit (see 2.3.4).

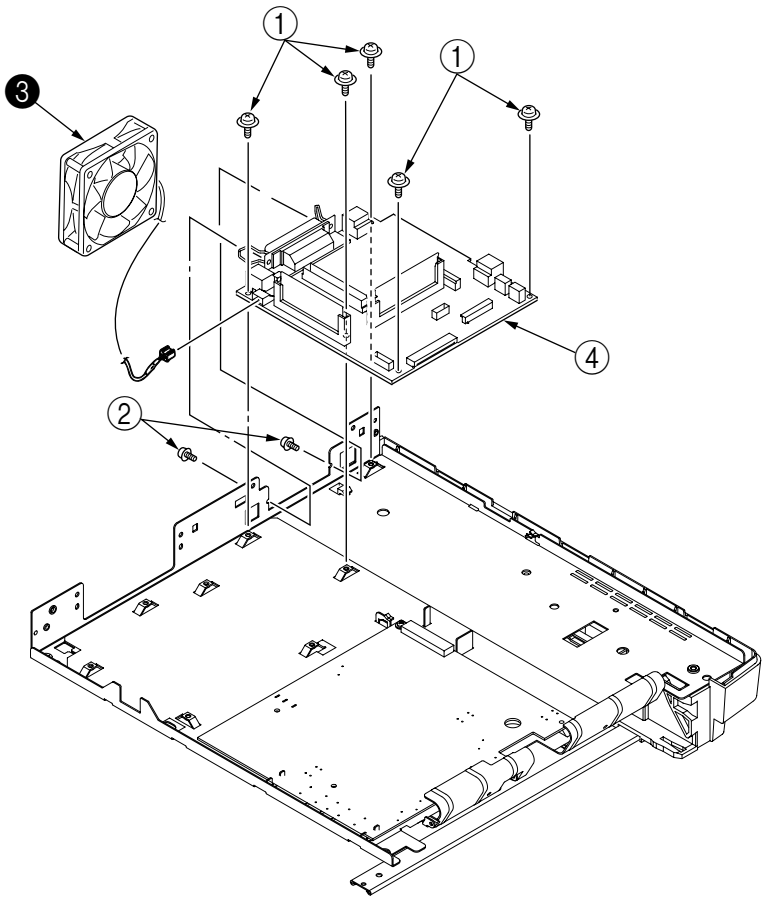
(5) Remove five screws ① and two screws ②.

(6) Remove the connector FAN, and disconnect the fan motor ❸.

(7) Remove the three connectors PW_1, PW_2 and HVIF.

(8) Remove the main control board ④.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.22 Power Supply Board and High Voltage/Sensor Board

⚠Warning	Risk of Electric Shock	

There is a risk of electric shock during replacement of the low voltage power supply.

Use insulating gloves or avoid direct contact with any conducting part of the power supply, and caution should be exercised during replacement.

The capacitor may take one minute to complete discharge after the AC cord is unplugged. Also, there is a possibility that the capacitor doesn't discharge because of a breakage of the PCB, etc., so remember the possibility of electric shock to avoid electric shock.

(1) Remove the upper cover assy (see 2.3.1).

(2) Remove the lower base unit (see 2.3.4).

(3) Remove two screws ① and the guide plate ②.

(4) Remove the AC inlet ③ from the guide plate ②.

(5) Remove the screw ④ and remove the grounding (earth) wire ⑤.

(6) Remove the connectors CN101 from power supply board ❻ and CN1 from high voltage/sensor board ❼.

(7) Remove seven screws ⑧, and remove the power supply board ❻ and high voltage/sensor board ❼.

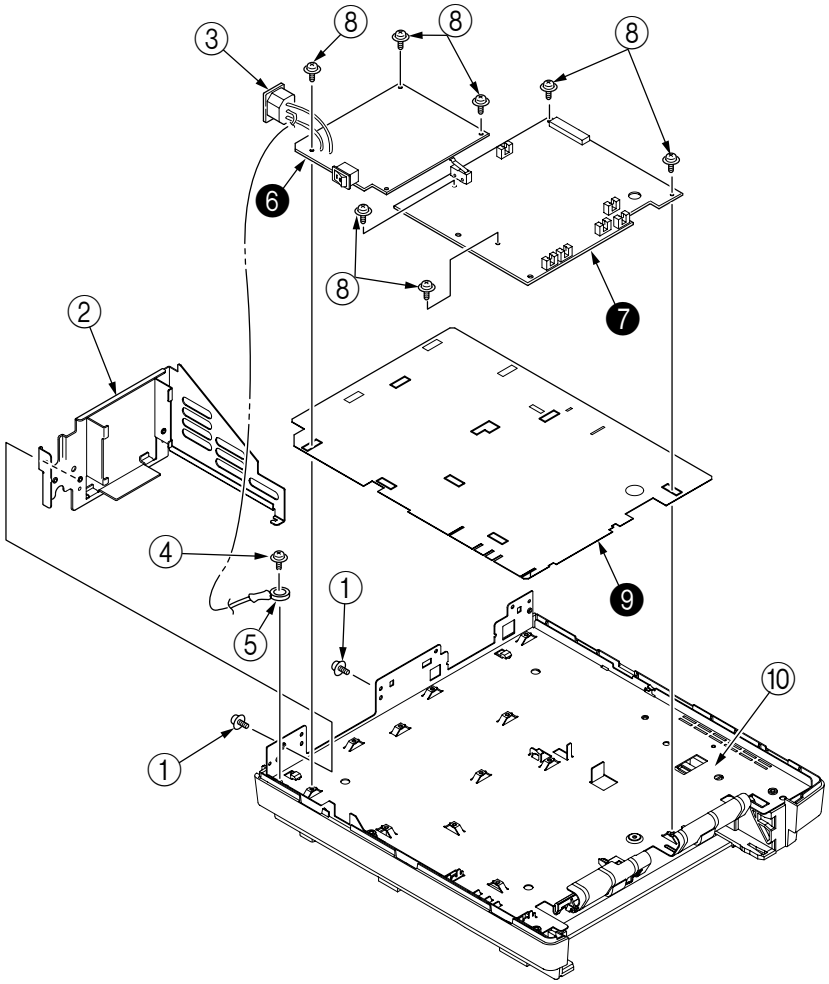
(8) Remove the Insulation plate ❾ from the base plate ⑩.

Notes : ***1.*** Be careful about the sensor (paper supply) when reinstalling the lower base.

2. Make sure that no excessive force is applied to the power supply switch.

3. When installing the power supply board onto the base plate, be careful not to bend the base plate (it is desirable to place a block underneath it to prevent bending).

4. Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.23 Cassette Guide L Assy

(1) Remove the paper cassette.

(2) Remove the upper cover assy (see 2.3.1).

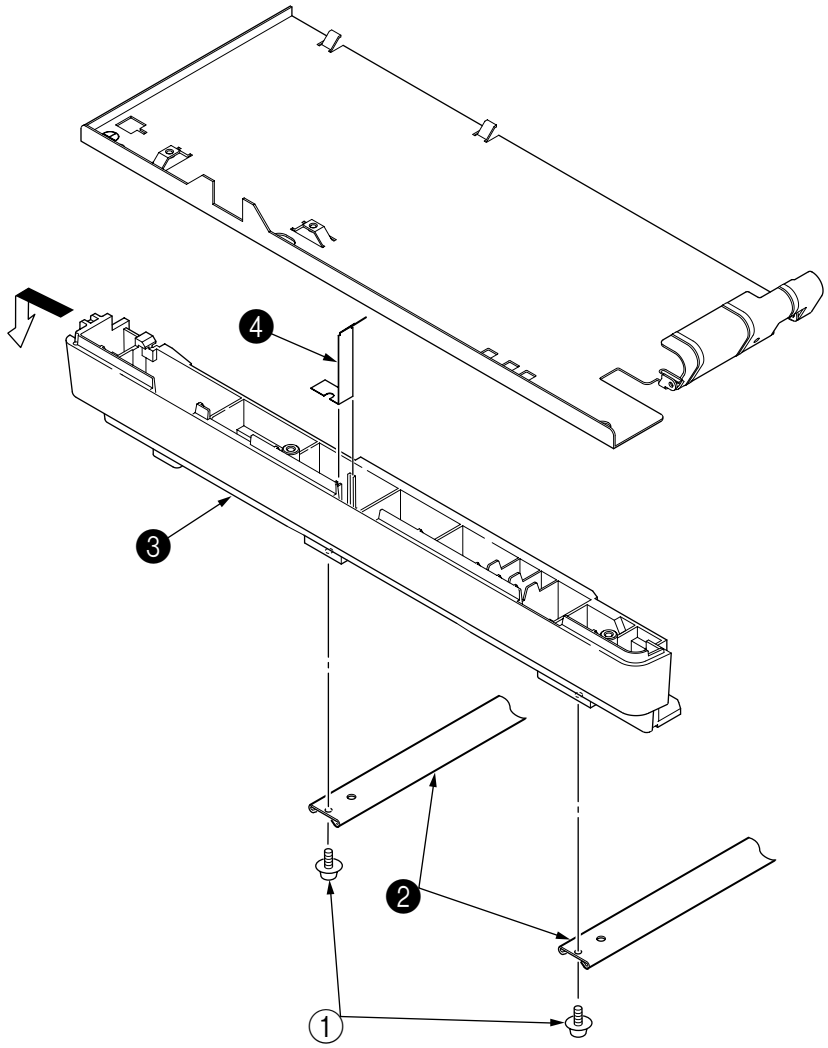
(3) Remove the lower base unit (see 2.3.4).

(4) Remove two screws ①, and remove the beam plates ❷.

(5) Remove the cassette guide L Assy ❸ by shifting it in the direction of the arrow as shown below.

(6) Remove the earth plate ❹.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



2.3.24 Cassette Guide R Assy

(1) Remove the paper cassette.

(2) Remove the upper cover assy (see 2.3.1).

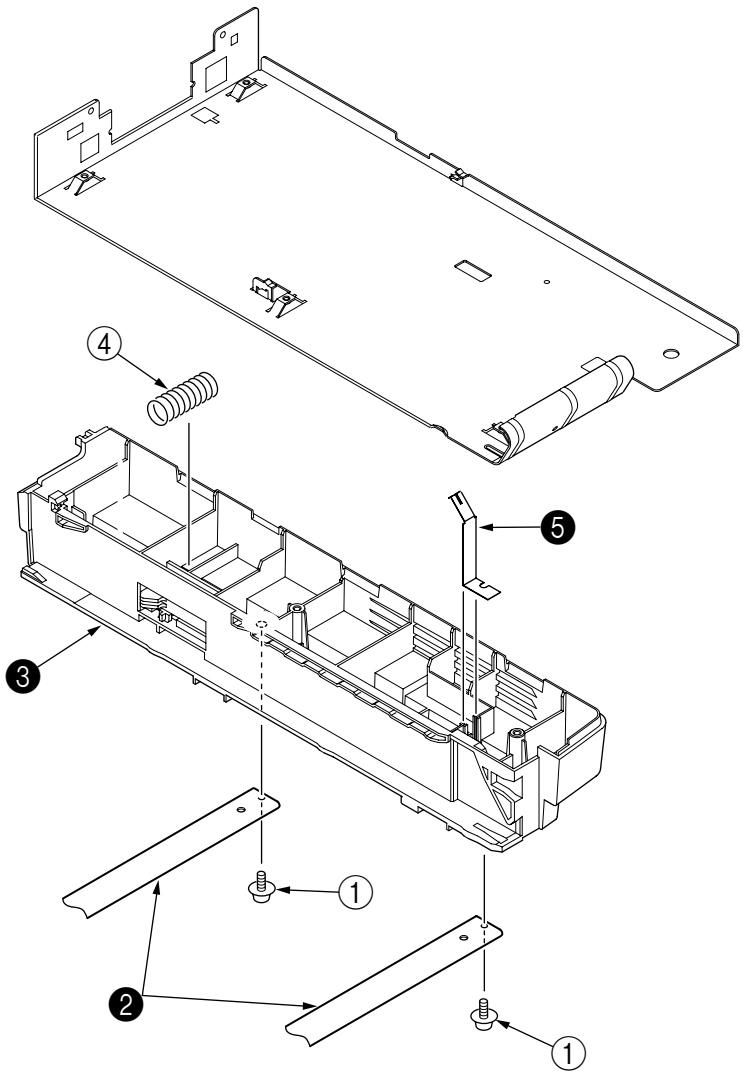
(3) Remove the lower base unit (see 2.3.4).

(4) Remove two screws ①, and remove the beam plates ❷.

(5) Remove the cassette guide R Assy ❸ by shifting it in the direction of arrow.

(6) Remove the earth plate ④ and the cassette lock spring ❺.

Note : Be careful not to touch (or rotate) the DC motor thoughtlessly. Rotating the DM motor counterclockwise removes the eject spring. (Refer to 2.3.9.)



3. ADJUSTMENT

This chapter explains adjustment necessary when a part is replaced.

This adjustment is made by changing the parameter values set in EEPROM on the main control board. The status monitor or maintenance utility can be used to change these values.

Only servicemen and maintenance personnel can use the maintenance utility. This utility cannot be made public for printer end users.

3.1 Adjustment Types and Functions

3.1.1 Status Monitor

Please refer to Status Monitor.

3.1.2 Maintenance Utility

A operation method of Maintenance Utility, please refer to Maintenance Utility Operating Specifications.

3.2 Adjustment When Replacing a Part

Adjustment is necessary when replacing any of the following parts.

Part Replaced	Adjustment
Image Drum Cartridge	Reset the image drum counter (refer to User's manual).
Main Control Board	EEPROM data Upload / Download

3.2.1 Uploading/Downloading EEPROM data

When the controller printed circuit board is replaced, the contents of the old EEPROM shall be copied to the new EEPROM on the new board to preserve customer settings. For the purpose, use the Maintenance Utility.

A operation method of Maintenance Utility, please refer to Maintenance Utility Operating Specifications.

The maintenance utility is designed to be used only by field engineer and it should not be released to the end-users.

4. PERIODICAL MAINTENANCE

4.1 Periodical Replacement Parts

The parts are to be replaced periodically as specified below:

Part name	Condition for replacement	Cleaning	Remarks
• Toner cartridge 3K (Type 10)	About 3,000 sheets of paper have been printed.	• LED head	Consumables
• Image drum cartridge (Type 10)	About 25,000 sheets of paper have been printed. See 1.4. (14)		Consumables

4.2 Cleaning

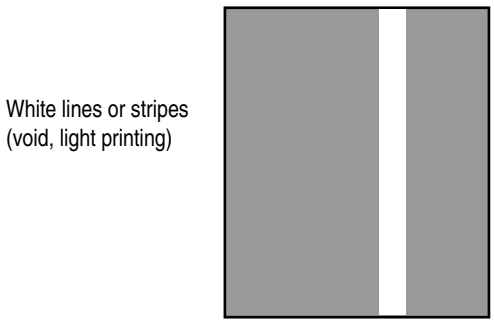
Remove any toner or dust accumulated inside the printer. Clean in and around the printer with a piece of cloth when necessary. Use the handy cleaner (service tool) to clean inside the printer.

Note: Do not touch the image drum, LED lens array, or LED head connector block.

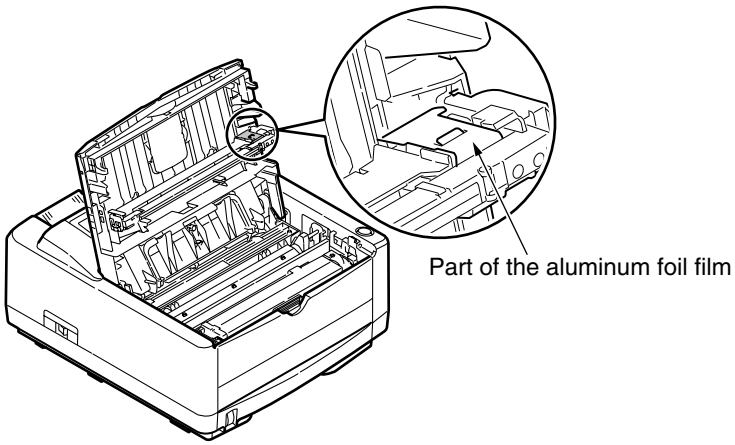
4.2.1 Cleaning of LED Lens Array

Clean the LED lens array or replace the toner cartridge when white lines or stripes (void, light printing) are generated vertically down the page, as shown below.

Note: The LED lens array must be cleaned with an LED head cleaner included in the replacement toner kit.

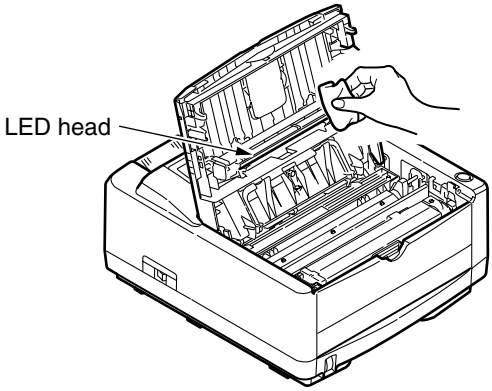


(1) Before cleaning the LED head, touch the part of the aluminum foil film to eliminate static electricity.



Note: Do not use solvents such as methyl alcohol or thinner because of causing damage to the LED head.

(2) Wipe the whole LED head with a soft tissue paper or soft cloth.



Note: To prevent any possible breaking down the printer, be sure to eliminate static electricity to clean the LED head.

4.2.2 Cleaning Page Function

There is a charge roller cleaning function with this printer, which can be executed by the user.

(1) Press the control switch to take the printer off line.

(2) Open the manual feed tray and insert a sheet of A4 plain paper between the paper guides.

(3) Press and hold down the control switch for at least five seconds.

(4) The printer grips the paper and prints a cleaning page.

(5) Return the printer on line by pressing the control switch.

(6) If subsequent printing appears faded or uneven, try replacing the toner cartridge.

5. TROUBLESHOOTING PROCEDURES

5.1 Troubleshooting Tips

(1) Check the basic check points written in the user's manual.

(2) Gather detailed failure information as much as possible from the customer.

(3) Check the printer under the condition close to that under which the failure occurred.

5.2 Check Points Before Correcting Image Problems

(1) Is the printer running in proper ambient conditions?

(2) Are consumables (toner and EP unit) replaced correctly?

(3) Are sheets of paper normal?

(4) Is the EP unit set correctly?

5.3 Notes When Correcting Image Problems

(1) Do not touch the surface of the OPC drum nor place foreign matter on it.

(2) Do not expose the OPC drum to direct sunlight.

(3) Do not touch the fuser because it heats up during operation.

(4) Do not expose the image drum to light for more than five minutes at room temperature.

5.4 Preparation Before Troubleshooting

(1) Message display

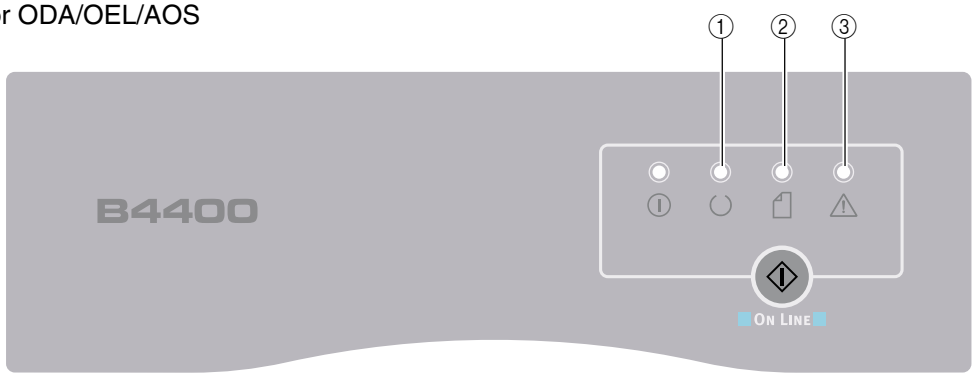
The failure status of printer is displayed on the status monitor of the PC.

Take proper action according to the message displayed on the status monitor.

(2) LED indicator

Printer is equipped with three LED. These LED indicates one of the following statuss:

For ODA/OEL/AOS



① Ready LED Indicator
② Manual Feed LED Indicator
③ Error LED Indicator

LED Functions(1/2)

Status	◯ Ready (green)	Manual Feed (amber)	⚠ Error (amber)	Remark
Online(Ready)	ON	OFF	Undefined	
Offline	OFF	OFF	Undefined	
File Accessing	Undefined	Undefined	Flash 1	
Data Arrive	Flash 2	OFF	Undefined	
Data Processing	Flash 2	OFF	Undefined	
Data Exist	Flash 1	OFF	Undefined	
Printing	Flash 2	OFF	Undefined	
Printing (copy)	Undefined	OFF	Undefined	
Canceling Job	Flash 1	OFF	Undefined	
Canceling Job (JAM)	Flash 1	OFF	Undefined	
Canceling Job(DENIED)	Undefined	Undefined	Undefined	
Canceling Job(LOG)	Undefined	Undefined	Undefined	
Warming Up	Flash 1	Undefined	Undefined	
Power Saving	Undefined	OFF	OFF	
Toner Low	Undefined	Undefined	Flash 1 or Flash 2	
Inappropriate Toner Detected	Undefined	OFF	Flash 2	
Toner Cartridge Mismatch	Undefined	OFF	Flash 2	
Inappropriate Toner	Undefined	OFF	Flash 2	
Toner Empty	Undefined	OFF	Flash 2	
Toner Sensor Error	Undefined	Undefined	Flash 1	
Toner not Installed	Undefined	Undefined	Flash 2	
Order Drum	Undefined	OFF	Flash 2	
Change Drum	Undefined	Undefined	Flash 3	
Print Demo	Flash 2	Undefined	Undefined	
Print Fonts	Flash 2	Undefined	Undefined	
Print Menu Map	Flash 2	Undefined	Undefined	
Print File list	Flash 2	Undefined	Undefined	
Print Cleaning	Flash 2	Undefined	Undefined	
Invalid data	Undefined	OFF	Flash 2	
tttt tray paper out (BACK GROUND)	Undefined	Undefined	Flash 1	
Tray2 cover open	Undefined	Undefined	Flash 1	
File System Error (File System full)	Undefined	Undefined	Flash 1	
File System Error (Write Protect)	Undefined	Undefined	Flash 1	
Invalid ID. Job Rejected	Undefined	Undefined	Flash 1	
Log Buffer Full. Job Rejected	Undefined	Undefined	Undefined	
File System Error (Operation failure)	Undefined	Undefined	Flash 1	
Manual Paper Request	Undefined	Flash 2	Undefined	
tttt Tray Duplex Print Request	Undefined	Flash 2	Undefined	
tttt Tray mmmm Paper Request	OFF	OFF	Flash 2	
Tray2 cover open	OFF	OFF	Flash 2	
tttt Tray mmmm Paper Media Mismatch	OFF	OFF	Flash 2	
tttt Tray mmmm Paper Size Mismatch	OFF	OFF	Flash 2	
RS232C Overflow Error	OFF	OFF	Flash 2	
RS232C Overrun Error	OFF	OFF	Flash 2	
RS232C Parity Error	OFF	OFF	Flash 2	
RS232C Framing Error	OFF	OFF	Flash 2	
Config Writing	Undefined	Undefined	Undefined	
Network Initializing	Undefined	Undefined	Undefined	
Toner Empty	OFF	OFF	Flash 2	
Toner Sensor Error. Check Toner Cartridge.	OFF	OFF	Flash 2	

Flash 1 : Slow blinking
Flash 2 : Blinking
Flash 3 : Fast blinking

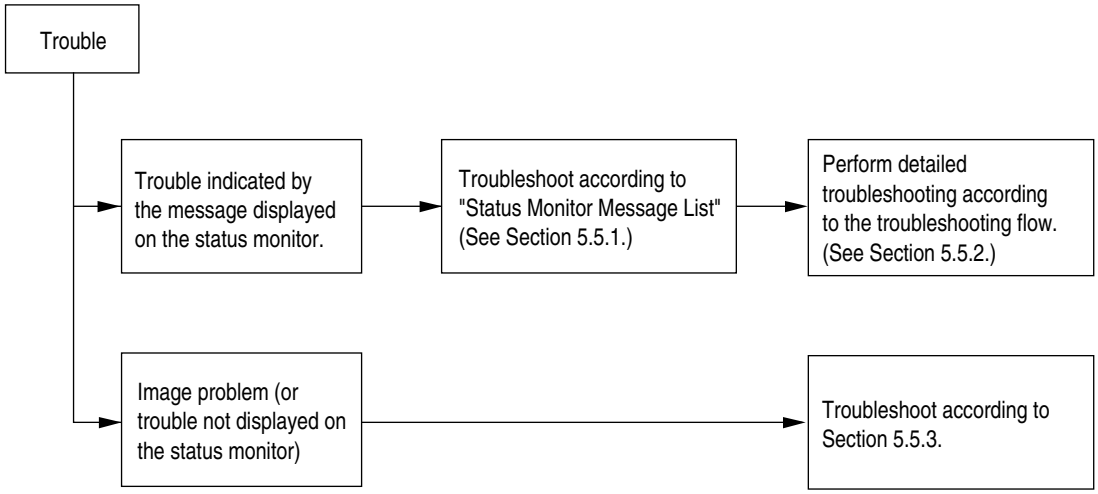
LED Functions(2/2)

Status	◯ Ready (green)	Manual Feed (amber)	⚠ Error (amber)	Remark
Toner Cartridge Mismatch	OFF	OFF	Flash 2	
Incompatible Toner	OFF	OFF	Flash 2	
Recommended appropriate Toner. Toner identification error	OFF	OFF	Flash 2	
Install Toner. Toner Missing	OFF	OFF	Flash 2	
Check Image Drum. Toner Sensor Error	OFF	OFF	Flash 2	
Page Buffer Overflow	OFF	OFF	Flash 2	
Paper Size Error	OFF	OFF	Flash 2	
Paper Induct Jam	OFF	OFF	Flash 2	
Paper Feed Jam	OFF	OFF	Flash 2	
Paper Exit Jam	OFF	OFF	Flash 2	
Change Drum	OFF	OFF	Flash 2	
Toner Cartridge Lock Lever Error	OFF	OFF	Flash 2	
ID Not Installed	OFF	Undefined	Flash 2	
Cover Open	OFF	Undefined	Flash 2	
Network Communication Error	OFF	OFF	OFF	
Restarting Printer	OFF	OFF	Flash 2	
Fatal Error	Flash 3	Flash 3	Flash 3	
Network Initializing	Undefined	Undefined	Undefined	
During initializing	OFF	OFF	OFF	
Initializing EEPROM	OFF	OFF	OFF	
Checking RAM	OFF	OFF	OFF	
During initializing EEPROM	Flash 2 (3 times)	Flash 2 (3 times)	Flash 2 (3 times)	
Drum counter being reset	Flash 2 (2 times)	Flash 2 (2 times)	Flash 2 (2 times)	
Factory Mode start-up function Rising	Flash 2 (1 times)	Flash 2 (1 times)	Flash 2 (1 times)	
Forced ROM start-up function Rising	Flash 2 (1 times)	Flash 2 (1 times)	Flash 2 (1 times)	
During initializing	ON and then OFF	ON and then OFF	ON and then OFF	

Flash 1 : Slow blinking
Flash 2 : Blinking
Flash 3 : Fast blinking

5.5 Troubleshooting

If a trouble occurs in the printer, troubleshoot according to the following procedures:


Trouble
Trouble indicated by the message displayed on the status monitor.
Troubleshoot according to "Status Monitor Message List" (See Section 5.5.1.)
Perform detailed troubleshooting according to the troubleshooting flow. (See Section 5.5.2.)
Image problem (or trouble not displayed on the status monitor)
Troubleshoot according to Section 5.5.3.

5.5.1 Status Monitor Message List

Table 5-1 lists the statuses and troubles to be displayed on the status monitor in the message format.

Table 5-1(1/6)

Status level	Status Monitor	CODE	Description
Normal	ONLINE Ready to Print	10001	Shows on-line status.
Normal	OFFLINE OFFLINE	10002	Shows off-line status.
Normal	File accessing The printer is accessing the file.	10993	Accessing to an accounting file.
Normal	Receiving Data Receiving Data	10061	Data receiving.
Normal	Processing Data Processing Data	10023	The data are receiving or received data are being processed.
Normal	Data Received Data Received	10096	The data are receiving or received data are being processed.
Normal	Printing Printing in progress	10098	The printer is printing.
Normal	Printing Printing copies Printing in progress Copy printing in progress.	10098 10099	Printing a copy. kkk indicates the number of sheet being printed. lll indicates the total number of sheets that have been printed.
Normal	Cancelling Job Cancelling Job	10007	Job cancellation has been instructed. Data is being ignored till the end of the job.
Normal	Cancelling Job Cancelling Job	10007	Indicates a status of discarding data until the end of a job after a job is cancelled when a jam is generated upon turning jam recovery OFF.
Normal	Cancelling Job Cancelling Job	10007	Cancelled as permission for printing has not been received. (JOB Account)
Normal	Adjusting fusing temperature Adjusting fusing temperature.	10003	Indicates that the printer is now warming up.

Table 5-1(2/6)

Status level	Status Monitor	CODE	Description
Normal	Power Save Mode	10094	A printer is in power save mode.
	Power Save Mode		
Normal	Printing Demo	10017	Demo page printing.
	Printing Demo		
Normal	Printing Font	10015	Fonts sample printing.
	Printing Font		
Normal	Printing Menu	10014	Menu map printing.
	Printing Menu		
Normal	Printing File List	10056	File list printing.
	Printing File List		
Normal	Cleaning printing	10974	Cleaning page printing.
	Cleaning printing		
Normal	Cancelling Job	40828	Indicates that a job has been cancelled as the area storing logs inside the printer has been drained and furthermore, a " cancel job " instruction appears when logs are full.
	Cancelling Job		
Warning	Toner low	10081	Toner amount is low. Exchange a toner cartridge.
	Toner is low.		
Warning	Non OEM Toner detected	10924	The toner cartridge is inappropriate. Install an appropriate toner cartridge.
	Non OEM Toner detected		
Warning	Toner incompatible	10954	The toner cartridge is inappropriate. Install an appropriate toner cartridge.
	Toner cartridge is incompatible.		
Warning	Toner identification error	10950	The toner cartridge is inappropriate. Install an appropriate toner cartridge.
	Non genuine toner.		
Warning	Toner empty	10965	Toner near empty. Exchange a toner cartridge.
	Toner is empty.		
Warning	Toner sensor error	10071	Something is wrong with the toner sensor. Start a printer again. Exchange an image drum cartridge.
	Toner sensor error.		
Warning	Toner cartridge not installed	10938	A toner cartridge isn't being set. Set a toner cartridge.
	There is no toner cartridge.		
Warning	Drum near end of life	10076	The image drum is near life. Please do the exchange preparation of the image drum and the toner cartridge, and exchange it.
	Drum cartridge near end of life.		
Warning	Drum life	10060 10969	The image drum is over of life. Please do the exchange preparation of the image drum and the toner cartridge, and exchange it.
	Drum cartridge life.		
Warning	Invalid data received	30114	Received invalid data. Prompts the user to press ON- LINE switch to clear Warning display. Displayed with the printer receives an unsupported PDL command.
	Invalid data received.		

Table 5-1(3/6)

Status level	Status Monitor	CODE	Description
Warning	No paper in Manual feeder No paper in Tray Tray 2 paper out Multi feeder paper out	1601x	Tray tttt has run out of paper. Handled as Warning until the user designates the tray that has run out of paper.
	Paper out in Manual. Paper out in Tray 1. Paper out in Tray 2. Paper out in Multi feeder.		
Warning	Tray 2 cover open	40076	Second Tray Cover Open. To continue, close cover.
	Tray 2 cover is open.		
Warning	File system is full	32002	Flash Full has occurred. This is a transient warning.
	The file system is now full.		Displayed until the job is completed, then, cleared.
Warning	File is write protected	32026	An attempt to write in a write-protected file was made. Because this is a transient warning, it is displayed
	You cannot write to a protected file.		until the job is completed. then, cleared.
Warning	Printing cancelled	10982	Notifies a user that the job has been cancelled as permission for printing has not been received.
	Printing cancelled		This is displayed until the ON LINE key is pressed.
Warning	Printing cancelled	10982	Notifies a user that the job has been cancelled as the log buffer is full. This is displayed until the ON LINE key is pressed.
	Printing cancelled		
Warning	"Error making directory Volume not available Disk full File finding error File descriptor error Invalid number of bytes File making error Illegal file name Root directory deleting error Directory operating error File operating error Different volume Read only Root directory full Error deleting directory Disk error No label Invalid parameter No continuous space Error changing directory File descriptor error Deleted Block device error Seek error Internal error Write only File is write protected	3200 ~3206	There was unauthorized access in the flash memory. Acquire a log with JOB Accounting system.

Table 5-1(4/6)

Status level	Status Monitor	CODE	Description
Warning	You cannot make more than 26 directories. Volume not available. Disk full Cannot find the specified file or directory. There is no file descriptor free. Byte number invalid. A file with the same name already exists. Invalid file name. Root directory cannot be deleted. Operation has been sent to the file handling the directory. Operation has been sent to the directory handling the file. The volume is different. Read only Root directory full. The directory is not empty. Disk error No label Invalid parameter There is no continuous space. Root directory cannot be changed. The file descriptor is obsolete. It has been deleted. There is no block device. Seek error. Internal error. Write only You cannot write to a protected file.	3200 ~3206	There was unauthorized access in the flash memory. Acquire a log with JOB Accounting system.
Error	Manual feeder paper request	411xx	Manual print request. Prompts the user to set paper indicated by mmmm manually.
	%s paper request in Manual feeder.		
Error	Manual Duplex print request Tray 1 Duplex print request Tray 2 Duplex print request Multi feeder Duplex print request	4083x	Paper feeding is recommended because the print of back sides (odd number pages) is finished during the Manual Duplex print. JOB is canceled if a paper isn't put even if it passes through the time when it is set up with "MAN TIME".
	Place the ejected paper on the Manual feeder. Flip the sheet of paper printed, place it on Tray 1, and press the printer ONLINE SWITCH. Flip the sheet of paper printed, place it on Tray 2, and press the printer ONLINE SWITCH. Flip the sheet of paper printed, place it on Multi feeder, and press the printer ONLINE SWITCH.		
Error	No paper in Tray 1 Tray 2 paper out Multi feeder paper out	472yy 473yy 474yy	Indicates that a print request was sent to the tttt tray that has become empty. A message for setting mmmm paper. TRAY1 TRAY2 MPF
	%s paper out in Tray 1. %s paper out in Tray 2. %s paper out in Multi feeder.		

Table 5-1(5/6)

Status level	Status Monitor	CODE	Description
Error	Tray 2 open	46033	Print request has been made to the 2nd tray route cover open.
	Tray 2 is open.		To continue, close cover.
Error	Paper size or media type mismatch in Tray 1 Paper size or media type mismatch in Tray 2 Paper size or media type mismatch in Multi feeder	482yy 483yy 484yy	The media type in the tray and the edit media type do not match. TRAY1 TRAY2 MPF
	Paper size or media type in Tray 1 does not match %s size in print data. Paper size or media type in Tray 2 does not match %s size in print data. Paper size or media type in Multi feeder does not match %s size in print data.		
Error	Paper size or media type mismatch in Tray 1 Paper size or media type mismatch in Tray 2 Paper size or media type mismatch in Multi feeder	482yy 483yy 484yy	The paper size in the tray and the edit size do not match. TRAY1 TRAY2 MPF
	Paper size or media type in Tray 1 does not match %s size in print data. Paper size or media type in Tray 2 does not match %s size in print data. Paper size or media type in Multi feeder does not match %s size in print data.		
Error	RS232C error	30996	RS232C Overflow has Occurred.
	RS232C error.		To continue, press ON-LINE switch.
Error	RS232C error	30996	RS232C Over Run has Occurred.
	RS232C error.		To continue, press ON-LINE switch.
Error	RS232C error	30996	RS232C Parity Error has Occurred.
	RS232C error.		To continue, press ON-LINE switch.
Error	RS232C error	30996	RS232C Framing Error has Occurred.
	RS232C error.		To continue, press ON-LINE switch.
Error	Network initializing	30993	Initializing (rebooting) a section related to NIC.
	Network initializing. Please wait.		
Error	Toner empty	40028	Toner Low has passed, and almost no toner is left in the cartridge.
	Toner is empty.		For temporary operation, open/close the cover or press "ON-LINE" switch, to recover the printer operation. But basically you must change the toner cartridge.
Error	Toner sensor error	40818	Exceeds a limit of the quantity which a toner cartridge can be used for.
	Check toner cartridge.		Cause-1 : The supplement of the unexpected toner Cause-2: Toner sensor error.
Error	Toner incompatible	40947	The toner cartridge is inappropriate.
	Toner is reagional mismatch.		Install an appropriate toner cartridge.
Error	Toner identification error	40910	The toner cartridge is inappropriate.
	Toner is incompatible.		Install an appropriate toner cartridge.
Error	Toner identification error	40906	The toner cartridge is inappropriate.
	Toner cartridge is not genuine.		Install an appropriate toner cartridge.
Error	Toner identification error	40943	The toner cartridge is inappropriate.
	Genuine toner is recommended. Toner is not genuine.		Install an appropriate toner cartridge.

Table 5-1(6/6)

Status level	Status Monitor	CODE	Description
Error	Toner cartridge not installed There is no toner cartridge.	40902	The toner cartridge is not installed.
Error	Toner sensor error Check drum cartridge.	40959	Something is wrong with the toner sensor.
Error	Edit buffer overflow Memory overflow.	30097	"Memory capacity has overflowed due to the following reasons. To continue, press ON-LINE switch. Install expansion RAM or decrease the data amount. - Too much print data in a page. - Too much Macro data. - Too much DLL data. - After frame buffer compression, overflow has occurred."
Error	Paper size error The paper size is different from the specified size.	30034	Warns that paper of the inappropriate size has been fed from the tray. Check whether Multi-feed has happened. To continue for Recovery Print, open and close the cover.
Error	Paper input jam A paper jam occured while loading paper.	40077	Paper jam occurred when paper was being fed from ttttt tray. TRAY1 TRAY2 MPF
Error	Paper feed jam A paper jam occured while printing.	40078	Jam occurred when paper was printing. Open the cover and remove the paper inside the printer. Close the cover to continue for Recovery Print.
Error	Paper output jam A paper jam occured while ejecting paper.	40079	Jam occurred when paper was exiting. Open the cover and remove the paper inside the printer. Close the cover to continue for Recovery Print.
Error	Drum life Drum cartridge life.	40996	Notifies the user of the drum life. For temporary operation, open/close the cover or press "ON-LINE" switch, to recover the printer operation. But basically you must change the drum. If Change Drum Alarm occurs at Toner Empty display timing, this message is displayed.
Error	Toner cartridge lock lever error The position of toner cartridge lock lever is incorrect.	40914	Lock Lever is unlocked and the toner cartridge is not correctly set. It is shown that the lever lock forgetting etc. of the toner investigate, and the toner doesn't drop in the image drum.
Error	Drum not installed Drum cartridge is not installed properly.	40033	Indicates that the drum is not set properly.
Error	Cover open The cover is open.	40021	The cover is open.
Error	Network communication error Network communication error.	30027	Network error has occurred. Reboot it.
Fatal	Printer fatal error Fatal error. Please contact your dealer.	40057	Note: The following error names are not displayed:

5.5.2 Status Message Troubleshooting

If the problems cannot be corrected by using the status message/problem list, follow the troubleshooting flowcharts given here to deal with them.

No.	Trouble	Flowchart number
1.	The printer does not work normally after the power is turned on.	①
2.	Jam alarm ├ Paper input jam ├ Paper feed jam └ Paper exit jam	 ②-1 ②-2 ②-3
3.	Paper size error	③
4.	Fusing unit error	④
5.	SSIO (Synchronous Serial Input/Output) error I/F timeout (no response) between the printer and an optional tray (High Capacity Second Paper Feeder, Power Envelope Feeder).	⑤
6.	Fan error	⑥

① The printer does not work normally after the power is turned on.

• Turn the power off, then back on.

• Is the Power LED (⏻) lamp on?

- • No Is the AC cord being connected properly?
  - • No Connect the AC cord properly.
- Yes Is +5 V being applied between Pins 4 and 2 of PW_2 connector on the main control board?
  Pin 1 : 0 V
  Pin 3 : +5 V
  A
  - • No Is the connection between POWER connector on the main control board and connector CN101 on the power supply board being made properly?
    - No Correct the connection.
  - • Yes Replace the power supply board.
- Yes Is +3.3 V being applied?
  :IC4 Pin4:0V Pin8:+3.3V
  - • No Replace the main control board.
- Yes Is the flexible cable for the operator panel assy being connected to the LCDPNL connector on the main control board and the connector CN1 on the OPP board properly?
  - • No Connect the flexible cable properly.
- Yes Replace the operator panel assy or flexible cable.
- Has the problem been solved?
  - • No Replace the main control board.
- Yes End

• Yes Is the Ready LED (◯) lamp on?

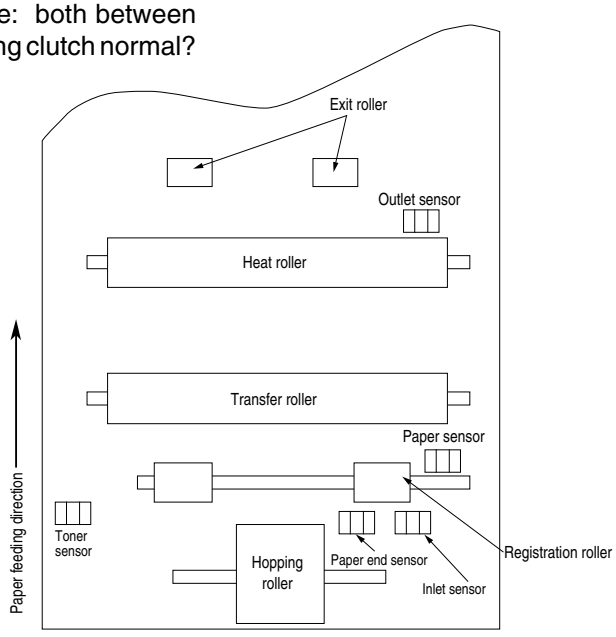
- • No Replace the main control board.

• Yes End

[JAM error]

②-1 Paper input jam

- Does the JAM error occur when the power is turned on?
  - Yes — Is the paper at the inlet sensor?
    - Yes — Remove the paper.
    - No — Is the operation of the inlet sensor plate normal (moves freely when it is touched)?
      - No — Replace the inlet sensor plate.
      - Yes — Clean the inlet sensor on the high voltage/sensor board, or replace the high voltage/sensor board.
  - No — Does the JAM alarm occur after paper feeding?
    - Yes — Is the paper fed to the inlet sensor plate?
      - Yes — Is the operation of the input sensor plate normal (moves freely when it is touched)?
        - No — Replace the inlet sensor plate.
        - Yes — Clean the inlet sensor on the high voltage/sensor board or replace the high voltage/sensor board.
      - No — Replace the hopping roller rubber or paper cassette.
    - No — Is the hopping roller rotating?
      - Yes — Set the paper tray properly.
      - No — Is the hopping clutch working normally?
        - Yes — Replace the boss and shaft of the hopping roller assembly.
        - No — Is CLT connector on the main control board being connected properly?
          - No — Connect CLT connector properly.
          - Yes — Is the coil resistance (normal resistance: both between Pins 1 and 2 is about 144 Ω) of the hopping clutch normal?
            - No — Replace the hopping clutch.
            - Yes — Replace the main control board.



[JAM error]

②-2 Paper feed jam

- Does the paper feed jam occur when the power is turned on?
  - Yes — Is the paper on the paper sensor plate?
    - Yes — Remove the paper.
    - No — Is the operation of the paper sensor plate normal (moves freely when it is touched)?
      - No — Replace the paper sensor plate.
      - Yes — Replace the high voltage/sensor board.
  - No — Has the paper reached the paper sensor plate?
    - No — Is the hopping roller rotating?
      - No — Check the hopping roller assembly or tray or hopping clutch.
      - Yes — Is the image drum cartridge being set properly?
        - No — Set the image drum cartridge properly.
    - Yes — Has the paper reached the outlet sensor plate?
      - Yes — Is the operation of the outlet sensor plate normal (moves freely when it is touched)?
        - No — Replace the outlet sensor plate.
      - Yes — Clean the outlet sensor on the high voltage/sensor board or replace the high voltage/sensor board.
  - No — Is the main/drum motor rotating?
    - No — Is DM connector on the main control board being connected properly?
      - No — Connect DM connector properly.
      - Yes — Replace the main/drum motor or replace the main control board.
  - Yes — Is the transfer roller rotating?
    - No — Check the gears (transfer roller gear, drum gear at left side of ID unit).
  - Yes — Is the fusing unit being installed properly?
    - No — Install the fusing unit properly.
  - Yes — Is the image drum cartridge being set properly?
    - No — Set the image drum cartridge properly.
  - Yes — Clean the paper sensor on the high voltage/sensor board or replace the high voltage/sensor board.

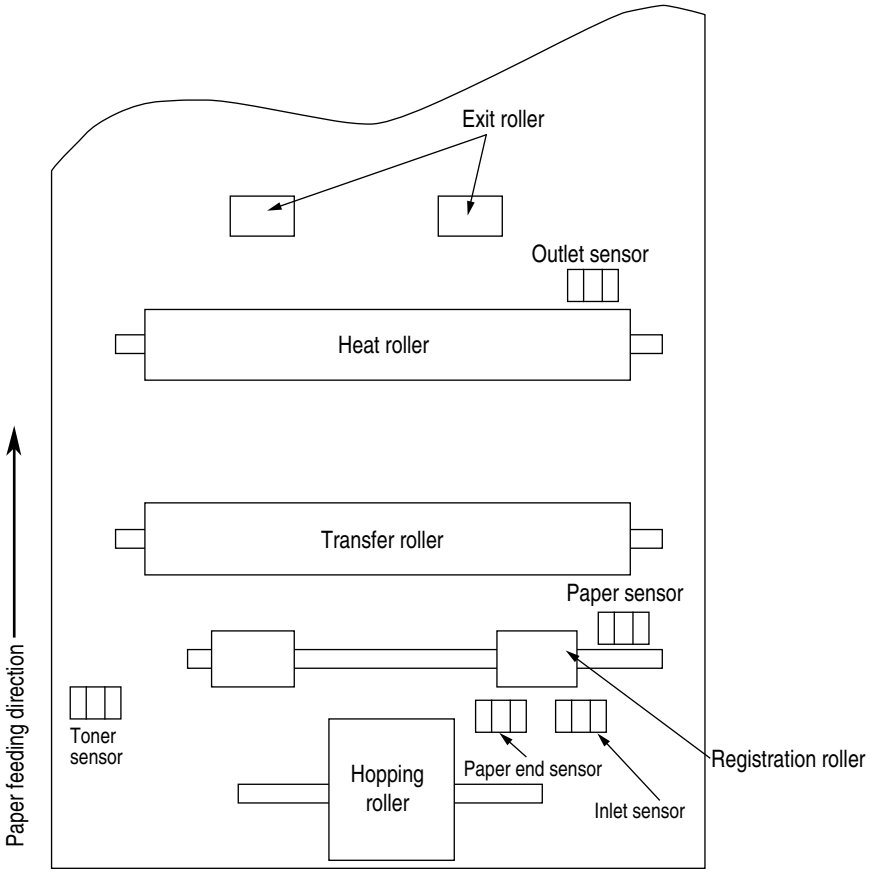
[JAM error]

②-3 Paper exit jam

- Does the paper exit jam error occur when the power is turned on?
  - Yes — Is the paper on the outlet sensor plate?
    - Yes — Remove the paper.
  - No — In the operation of the outlet sensor plate normal (moves freely when it is touched)?
    - No — Replace the outlet sensor plate.
  - Yes — Clean the outlet sensor on the high voltage/sensor board or replace the high voltage/sensor board.
- No — Is the face-up stacker pulled out completely from the printer or, pushed into the printer completely?
  - No — Pull the face-up stacker out of the printer completely or push it into the printer completely.
- Yes — Is the eject roller assembly being installed properly?
  - No — Install the eject roller assembly properly.
- Yes — Has the coil spring come off the eject roller assembly?
  - Yes — Install the coil spring to the eject roller assembly.
- No — Replace the eject roller assembly.

③ Paper size error

- Is paper of the specified size being used?
  - No Use paper of the specified size.
- Yes Are inlet sensor plate operating properly (moves freely when they are touched)?
  - No Replace the inlet sensor plate or clean the inlet sensor on the high voltage/sensor board.
- Yes Does the outlet sensor plate operate properly (moves freely when it is touched)?
  - No Replace the outlet sensor plate or clean the outlet sensor on the high voltage/sensor board.
- Yes Replace the high voltage/sensor board.



④ Fusing unit error (Status Message : Thermister Open Error
: Thermister Short Check Error
: Fuser Error Heater temp High
: Fuser Error Heater temp Low)

• Turn the power off, then back on again.

Yes Is the thermistor open or shorted? Measure the resistance between thermistor contacts (heater contacts 120V/2Ω or 240V/7Ω, and thermistor contacts 200KΩ at room temperature) (see Figure 5-2).

• Yes Replace the fusing unit.

No Do the thermistor connector is connected to the high voltage/sensor board connector?

• No Connect the thermistor connector properly.

Yes Is the heater of the fusing unit turned on (when the heater is turned on, light is emitted)?

• Yes Check the thermistor connector or replace the main control board or the fusing unit.

No Is the AC voltage being supplied to the connector for the heater of the power supply board? (see Figure 5-2)

• No Replace the main control board or the power supply board.

Yes Check the heater connector cord and the heater connector for poor contact .

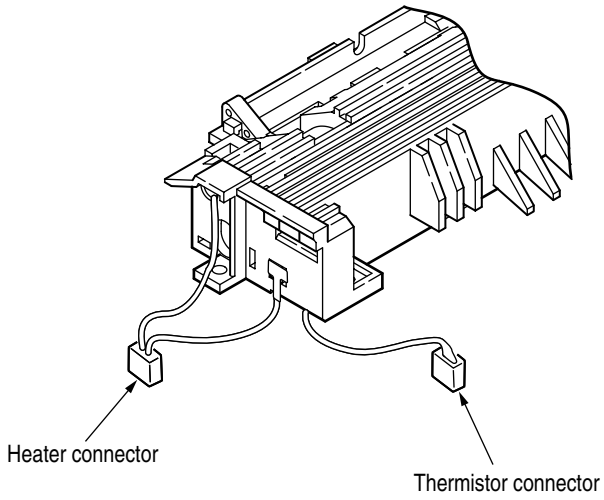


Figure 5-2

⑤ Synchronous serial I/O error (Status Message : SSIO Error) or I/F timeout between printer and optional tray (Status Message : Tray2 Timeout Error or Feeder Timeout Error)

- Is an option tray (High Capacity Second Paper Feeder or Multi Purpose Feeder) being used?
  - Yes — Is the cable between the main control board and the optional tray being connected properly?
    - No — Connect the cable properly.
  - Yes — Replace the main control board.
  - Has the problem been solved?
    - No — Check the problem by following the Multi Purpose Feeder maintenance manual of Appendix D or the High Capacity Second Paper Feeder maintenance manual of Appendix E.
  - Yes — End
- No — Replace the main control board.

⑥ Fan error (Status Message : FAN Motor Error)

- Is the fan rotating?
  - Yes — Replace the main control board.
- No — Is FAN connector on the main control board being connected properly?
  - No — Connect FAN connector properly.
- Yes — Replace the fan or main control board.

5.5.3 Image Troubleshooting

Procedures for troubleshooting for abnormal image printouts are explained below. Figure 5-3 below shows typical abnormal images.

Problem	Flowchart number
Images are light or blurred entirely (Figure 5-3 Ⓐ)	①
Dark background density (Figure 5-3 Ⓑ)	②
Blank paper is output (Figure 5-3 Ⓒ)	③
Black vertical belts or stripes (Figure 5-3 Ⓓ)	④
Cyclical defect (Figure 5-3 Ⓔ)	⑤
Prints voids	⑥
Poor fusing (images are blurred or peels off when the printed characters and images on the paper are touched by hand)	⑦
White vertical belts or streaks (Figure 5-3 Ⓕ)	⑧

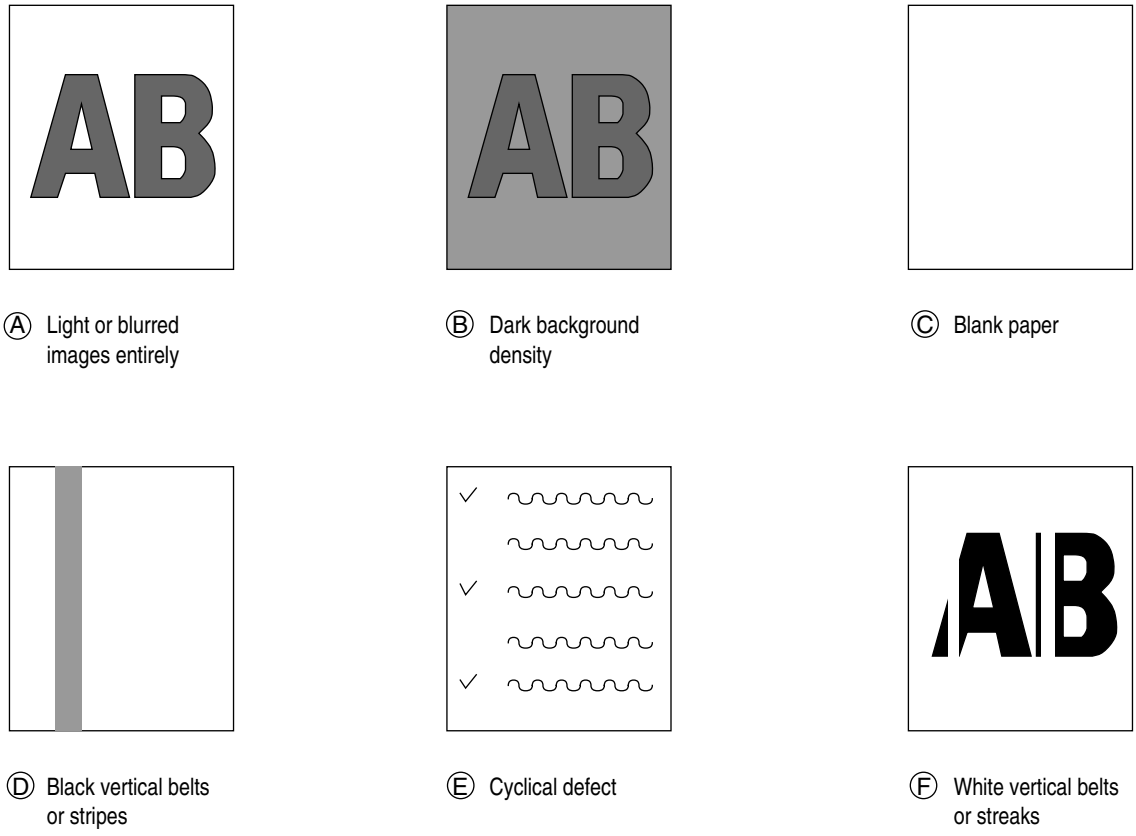

Ⓐ Light or blurred images entirely
Ⓑ Dark background density
Ⓒ Blank paper
Ⓓ Black vertical belts or stripes
Ⓔ Cyclical defect
Ⓕ White vertical belts or streaks

Figure 5-3

① Images are light or blurred entirely.

• Is toner low (is the TONER LOW message displayed)?

- Yes — Supply toner.

No — Is paper of the specified grade being used?

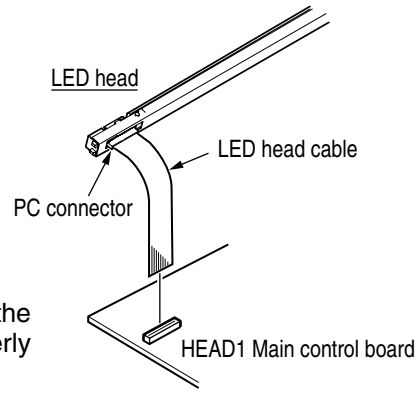
- No — Use paper of the specified grade.

Yes — Is the lens surface of the LED head dirty?

- Yes — Clean the lens.

No — Is the LED head being installed properly (check the HEAD connector of the main control board and PC connector on the LED head for proper connection)?

- No — Install the LED head properly.



Yes — Is the contact plate of the transfer roller in contact with the contact assembly of the high voltage/sensor board properly (see Figure 5-5)?

- No — Adjust the contact plate of the transfer roller to make a proper contact with the high voltage/sensor board and shaft of the transfer roller.

Yes — Are the contact of the developing roller and the contact of the toner supply roller of the image drum cartrige in contact with the contact assembly properly (see Figure 5-4 Ⓐ and Ⓑ)?

- No — Adjust the contacts of the developing and toner supply roller to make a proper contact with the contact assembly.

Yes — Replace the transfer roller.

Has the problem been solved?

- Yes — End

No — Replace the image drum cartridge.

Has the problem been solved?

- Yes — End

Note: After replacing the image drum cartridge, reset the drum counter (see User's Manual).

No — Is the tension between the back-up roller (7.52kg) and the surface of back-up roller normal?

- No — Replace the back-up roller or bias spring.

Yes — Replace the main control board or high voltage/sensor board.

② Dark background density

- Has the image drum been exposed to external light?
  - Yes — Install the image drum in the printer and wait about 30 minutes.
- No — Perform the cleaning page function (see Section 4.2.2).
- Has the problem been solved?
  - Yes — End
- No — Is the heat roller of the fusing unit dirty?
  - Yes — Clean the heat roller.
- No — Is the contact of the cleaning roller of the image drum cartridge in contact with the contact assembly properly (see Figure 5-4 Ⓒ)?
  - No — Adjust the contact of the cleaning roller to make a proper contact with the contact assembly.
- Yes — Replace the image drum cartridge.
- Has the problem been solved?
  - Yes — End

    Note: After replacing the image drum cartridge, reset the drum counter (see User's Manual).
- No — Replace the main control board or high voltage/sensor board.

③ Blank paper is output.

- Is the LED head being connected properly (check the HEAD connector on the main control board and PC connector on the LED head)?
  - No — Connect the LED head properly or replace the head cable.
- Yes — Is the contact of the image drum cartrige in proper contact with the ground contact properly (see Figure 5-4 Ⓒ)?
  - No — Adjust the ground contact (Drum) of the contact assembly.
- Yes — Replace the LED head.
- Has the problem been solved?
  - Yes — End
- No — Replace the main control board or high voltage/sensor board.

④ Black vertical belts or stripes

• Perform the cleaning page function (see Section 4.2.2).

Has the problem been solved?

• Yes End.

No Replace the image drum cartridge.

Has the problem been solved?

• Yes End

Note: After replacing the image drum cartridge, reset the drum counter (see User's Manual).

Clean the LED lens array of the LED head.

Has the problem been solved?

• Yes End.

No Replace the LED head.

Has the problem been solved?

• Yes End

No Replace the main control board or high voltage/sensor board.

⑤ Cyclical defect

	Frequency	Remedy
Image drum	3.71" (94.2mm)	Replace or clean the image drum cartridge.
Developing roller	1.86" (47.12mm)	Replace the image drum cartridge.
Toner supply roller	2.96" (75.27mm)	Replace the image drum cartridge.
Charging roller	1.21" (30.63mm)	Replace the image drum cartridge.
Cleaning roller	0.93" (23.56mm)	Replace the image drum cartridge.
Transfer roller	1.95" (49.6mm)	Replace the transfer roller.
Heat roller	2.44" (62.0mm)	Replace the fusing unit assy.
Back-up roller	2.73" (69.4mm)	Replace the back-up roller.

Note: After replacing the image drum cartridge, reset the drum counter (see User's Manual).

⑥ Prints voids

- Is the contact plate of the transfer roller in proper contact with the high voltage/sensor board (see Figure 5-5)?
  - No — Adjust the contact plate so that it touches the high voltage/sensor board and the shaft of the transfer roller properly.

Yes — Replace the transfer roller.

Has the problem been solved?

- Yes — End

No — Is the tension between the back-up roller (7.52kg) and the surface of back-up roller normal?

- No — Replace the back-up roller or bias spring.

Yes — Are the contacts of the toner supply roller, developing roller, image drum and charging roller in proper contact with the contact assy (see Figure 5-4 Ⓐ,Ⓑ,Ⓒ,Ⓓ,Ⓔ)?

- No — Adjust the contacts so that they touch the contact assy properly.

Yes — Replace the image drum cartridge.

Has the problem been solved?

- Yes — End

Note: After replacing the image drum cartridge, reset the drum counter (see User's Manual).

No — Is the LED head being installed properly (check HEAD connector on the main control board and PC Connector on the LED head)?

- No — Install the LED head properly.

Yes — Replace the LED head or the head cable.

Has the problem been solved?

Yes — End

No — Replace the main control board or high voltage/sensor board.

⑦ Poor fusing (images are blurred or peels off when the printed characters and images on the paper are touched by hand)

- Is paper of the specified grade being used?
  - No — Use paper of the specified grade.

Yes — Is the tension between the back-up roller (7.52kg) and the surface of back-up roller normal?

  - No — Replace the back-up roller or bias spring.

Yes — Is the connector of the fusing unit assy on the power supply/board being connected properly?

  - No — Connect the fusing unit connector properly.

Yes — Replace the fusing unit assy.

Has the problem been solved?

  - Yes — End

No — Replace the main control board or power supply/board.

⑧ White vertical belts or streaks

- Are the LED lens dirty?
  - Yes — Clean the LED lens.
- No — Is the contact plate of the transfer roller in proper contact with the high voltage/sensor board (see Figure 5-5)?
  - No — Adjust the contact plate to make a proper contact with the high voltage/sensor board.
- Yes — Replace the transfer roller.
- Has the problem been solved?
  - Yes — End
- No — Is the tension between the back-up roller (7.52kg) and the surface of back-up roller normal?
  - No — Replace the back-up roller or bias spring.
- Yes — Is the LED head being installed properly (check HEAD connector on the main control board and PC connector on the LED head)?
  - No — Install the LED head properly.
- Yes — Replace the LED head.
- Has the problem been solved?
  - Yes — End
- Yes — Replace the image drum cartridge.
- Has the problem been solved?
  - Yes — End

    Note: After replacing the image drum cartridge. Reset the drum counter (see User's Manual).
- No — Replace the main control board or high voltage/sensor board.

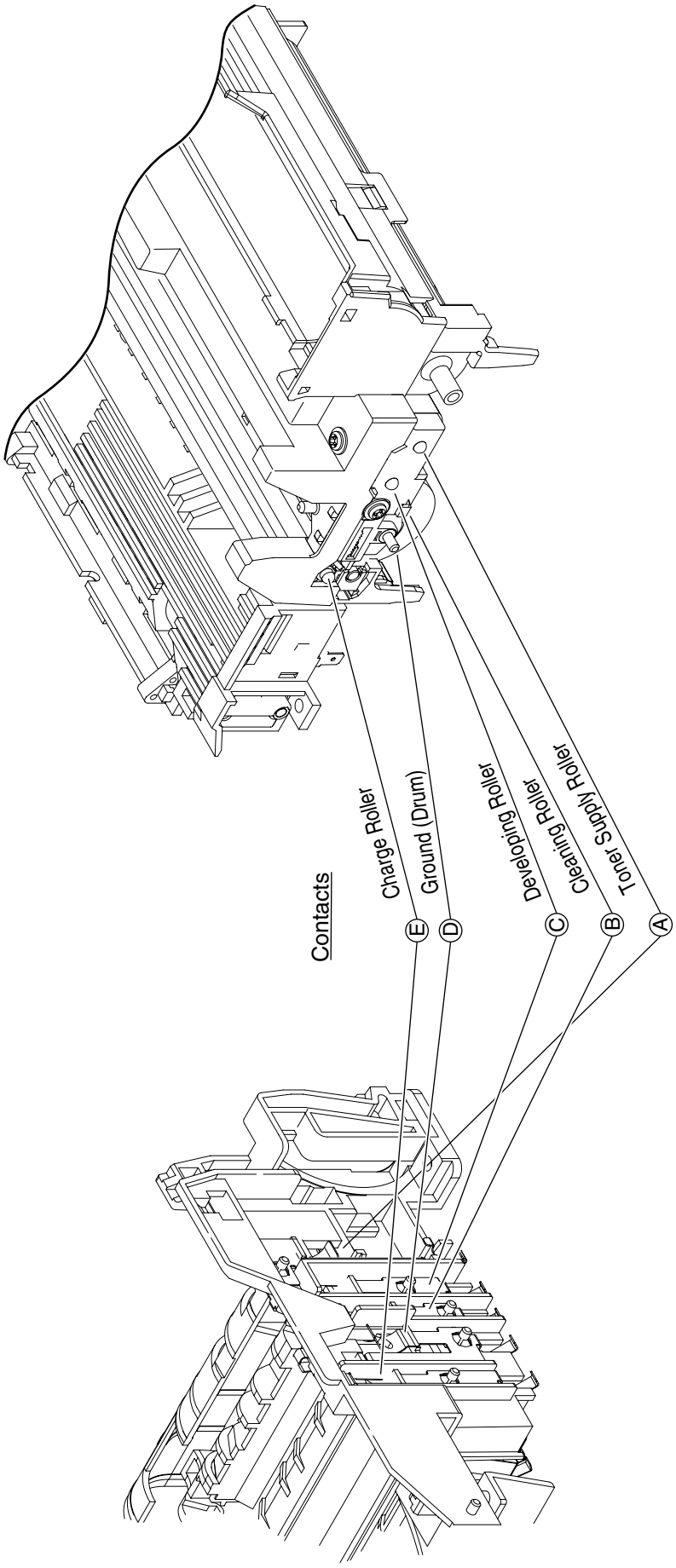

Contacts
Charge Roller
Ground (Drum)
Developing Roller
Cleaning Roller
Toner Supply Roller
E
D
C
B
A

Figure 5-4

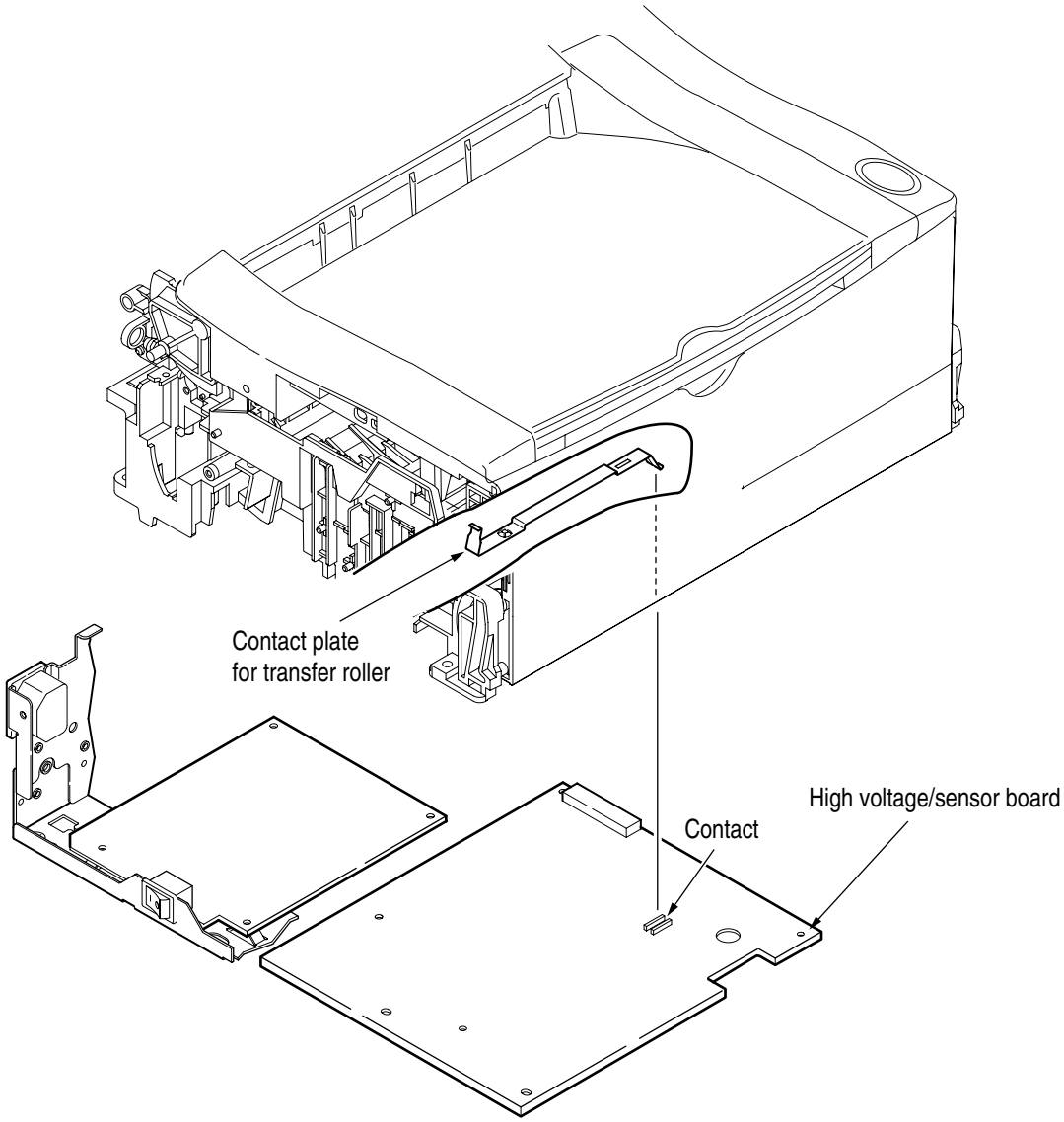
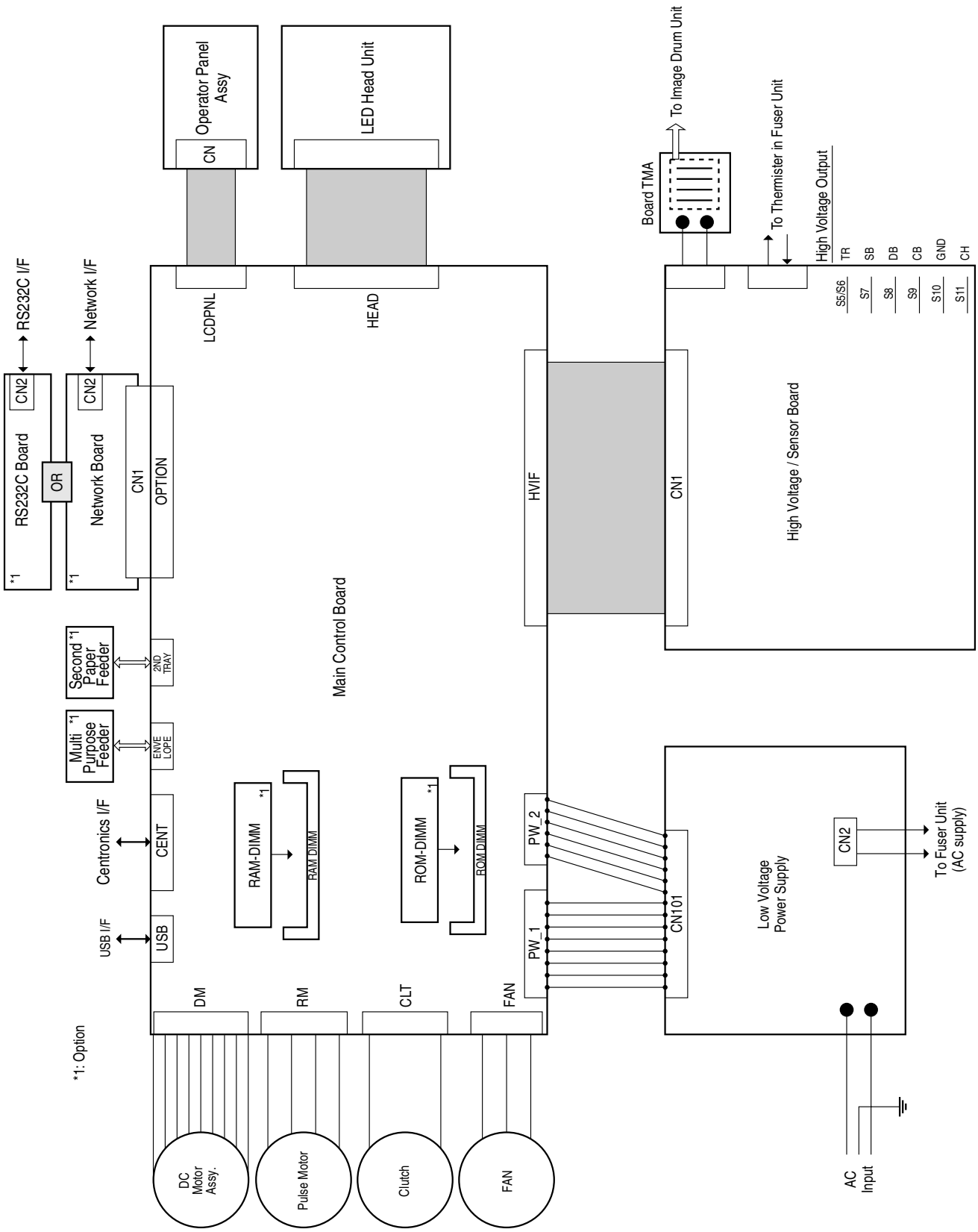

Contact plate
for transfer roller
High voltage/sensor board
Contact

Figure 5-5

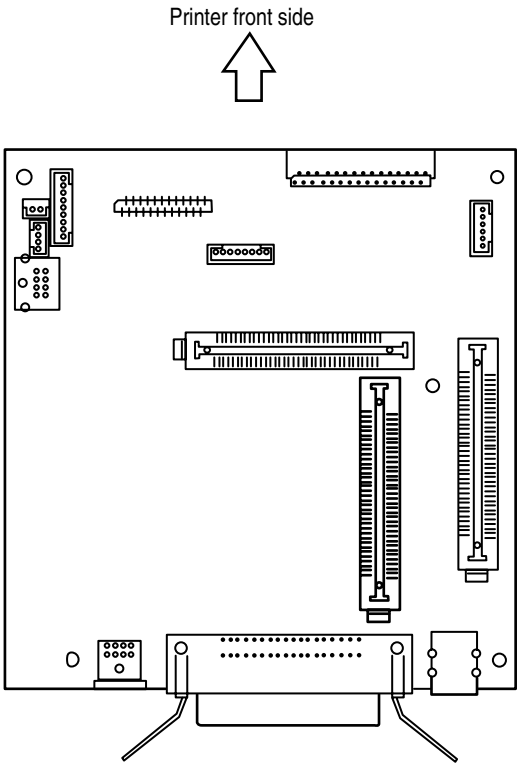
6. WIRING DIAGRAM

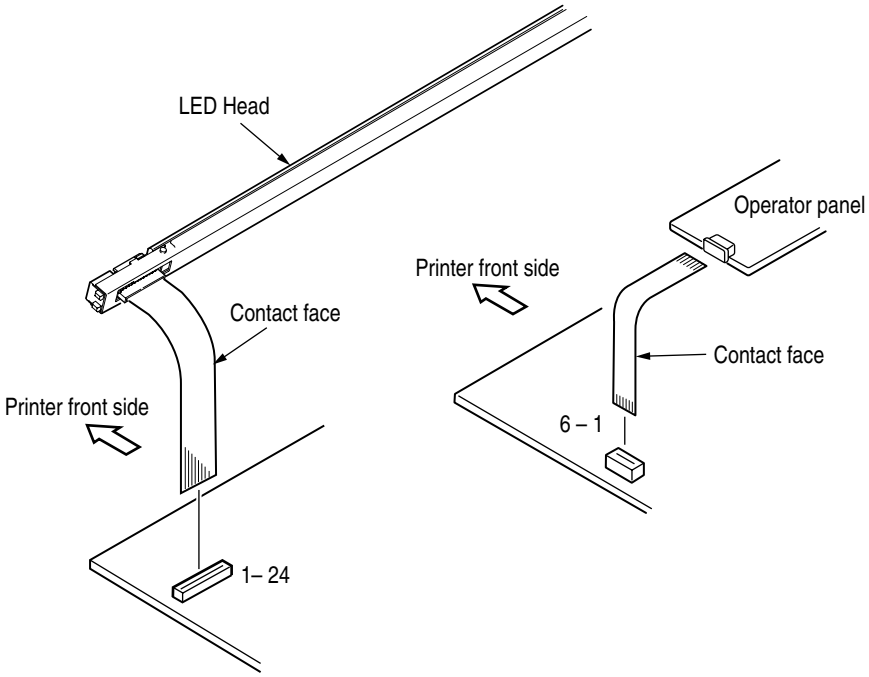
6.1 Interconnect Signal Diagram



6.2 PCB Layout and Connector Signal List

(1) Main Control Board



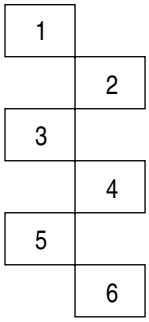


- HEAD Connector Pin Assignment
  (To LED head)

		PIN NO.	I/O*	Signal	Function
1		1	C	SG	Ground for Logic
	2	2	O	HDCLK-P	Clock
3		3	C	HDCLK-N	Clock
	4	4	C	SG	Ground for Logic
5		5	O	HDLD	Load
	6	6	O	HDSTB1	Hsync/CSN
7		7	O	HDDATA3	Data 3
	8	8	O	HDDATA2	Data 2
9		9	O	HDDATA1	Data 1
	10	10	O	HDDATA0	Data 0
11		11	O	HDSTB0	Strobe/SI
	12	12	O	HDSTB3	SCLK
13		13	O	HDSTB2	SO
	14	14	O	+3.3V	+3.3V for Logic
15		15	C	0VPHD	Ground for LED
	16	16	O	HEAD	+5V for LED
17		17	C	0VPHD	Ground for LED
	18	18	O	HEAD	+5V for LED
19		19	C	0VPHD	Ground for LED
	20	20	O	HEAD	+5V for LED
21		21	C	0VPHD	Ground for LED
	22	22	O	HEAD	+5V for LED
23		23	C	0VPHD	Ground for LED
	24	24	O	HEAD	+5V for LED

* O: Out
C: Common

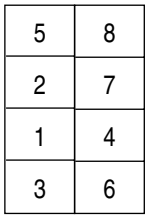
- LCDPNL Connector Pin Assignment
  (To Operator Panel)



PIN NO.	I/O*	Signal	Function
1	O	+5V	+5V
2	O	READY	LED (READY) ON
3	O	PAPER	LED (PAPER) ON
4	O	ALARM	LED (ALARM) ON
5	I	SW	Switch
6	C	SG	Ground

* I: In
O: Out
C: Common

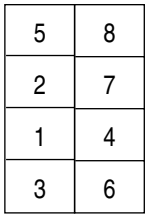
- ENVELOPE Connector Pin Assignment
  (To Multi Purpose Feeder)



PIN NO.	I/O*	Signal	Function
1	O	OPPAP-N	Paper Sensor 1
2	O	OPSCK-N	Clock
3	O	OPSD-N	Data
4	I	OPSDP-N	OPT send data
5	C	OVP	Analog Ground
6	O	+38V	+38V
7	C	SG	Logic Ground
8	O	+5VA	+5V

* I: In
O: Out
C: Common

- 2NDTRAY Connector Pin Assignment
  (To 2nd Tray)



PIN NO.	I/O*	Signal	Function
1	O	OPPAP-N	Paper Sensor 1
2	O	OPSCK-N	Clock
3	O	OPSD-N	Data
4	I	OPSDP-N	OPT send data
5	C	OVP	Analog Ground
6	O	+38V	+38V
7	C	SG	Logic Ground
8	O	+5VA	+5V

* I: In
O: Out
C: Common

- HVIF Connector Pin Assignment
  (To High Voltage Unit/Sensor Board)

		PIN NO.	I/O*	Signal	Function
1		1	I	WRSNS-N	Write Sensor
	2	2	I	IN1SNS-N	Paper Sensor 1
3		3	I	TONER-N	Toner Sensor
	4	4	I/O	1-WIRE	EEPROM 1-wire signal
5		5	I	PAPER-N	Paper Out Sensor
	6	6	C	SG	Ground
7		7	O	SBPWN-P	SB2 Output
	8	8	O	CB2PWN-P	CB2 Output
9		9	O	DB1PWM	DB1 Output
	10	10	C	SG	Ground
11		11	O	CB1PWM	Cb1 Output
	12	12	C	SG	Ground
13		13	I	TRI_FB	TR1 Current Feedback
	14	14	I	TRV_FB	TR1 Voltage Feedback
15		15	I	DB2_V_FB	DB2 Voltage Feedback
	16	16	I	CHI	CH Current Feedback
17		17	I	CH_V_FB	CH Voltage Feedback
	18	18	I	DB_I	DB Current Feedback
19		19	I	SB_V_FB	SB2 Voltage Feedback
	20	20	C	SG	Ground
21		21	O	CHPWM-P	CH Output Control
	22	22	O	DB2PWM	DB2 Output
23		23	O	TR2PWM-P	TR2 output
	24	24	O	TR1PWM-P	TR1 Output Control
25		25	O	+5V	+5V
	26	26	O	+5V	+5V
27		27	C	SG	Ground
	28	28	I	THERM	Thermistor
29		29	I	OUTSNS-N	Out Sensor
	30	30	I	CVOPN-N	Cover Open

* I: In
O: Out
C: Common

- PW_1 Connector Pin Assignment
  (To Power Supply Unit)

	PIN NO.	I/O*	Signal	Function
1	1	I	+38V	+24V
2	2	I	+38V	+24V
3	3	C	0VP	Analog Ground
4	4	C	0VP	Analog Ground
5	5	I	0VPHD	Ground for LED HEAD
6	6	I	0VPHD	Ground for LED HEAD
7	7	I	HEAD	+5V for LED HEAD
8	8	I	HEAD	+5V for LED HEAD

* I: In
O: Out
C: Common

- PW_2 Connector Pin Assignment
  (To Power Supply Unit)

	PIN NO.	I/O*	Signal	Function
1	1	I	ZCROSS	AC Zero cross
2	2	C	SG	Ground for Logic
3	3	C	SG	Ground for Logic
4	4	I	+5V	+5V for Logic
5	5	I	+5V	+5V for Logic
6	6	O	HEATON_N	Heater On

* I: In
O: Out
C: Common

- OPTION Connector Pin Assignment
  (To Option Board [Network or RS232C])

41		01	
	42		02
43		03	
	44		04
45		05	
	46		06
47		07	
	48		08
49		09	
	50		10
51		11	
	52		12
53		13	
	54		14
55		15	
	56		16
57		17	
	58		18
59		19	
	60		20
61		21	
	62		22
63		23	
	64		24
65		25	
	66		26
67		27	
	68		28
69		29	
	70		30
71		31	
	72		32
73		33	
	74		34
75		35	
	76		36
77		37	
	78		38
79		39	
	80		40

Pin No.	I/O*	Signal	Function	Pin No.	I/O*	Signal	Function
01	C	SG	Ground	41	C	SG	Ground
02	C	SG	Ground	42	C	SG	Ground
03	O	PPGNT0-N	Bus Grant (PCI)	43	I/O	PPPERR-N	Parity Error (PCI)
04	I/O	PPDVSL-N	Device select (PCI)	44	I/O	PPSERR-N	System Error (PCI)
05	I/O	PPTRDY-N	Target Ready (PCI)	45	I/O	PPSTOP-N	Stop (PCI)
06	I/O	PPFRM-N	Frame (PCI)	46	I/O	PPIRDY-N	Initiator Ready
07		NC	N.C.	47	I/O	PPPAR	Parity (PCI)
08		NC	N.C.	48		NC	N.C.
09		NC	N.C.	49		NC	N.C.
10	O	OPSCC_RXD	RXD (RS232C)	50	I	OPSCC_TXD	TXD (RS232C)
11	O	OPSCC_DSR	DSR (RS232C)	51	I	OPSCC_DTR	DTR (RS232C)
12	I/O	PPC_BE3	Command/Byte Enable 3 (PCI)	52	O	PPCLK0	Clock (PCI)
13	I/O	PPC_BE1	Command/Byte Enable 1 (PCI)	53	I/O	PPC_BE2	Command/Byte Enable 2 (PCI)
14	I	PRINT0-N	Interrupt (PCI)	54	I/O	PPC_BE0	Command/Byte Enable 0 (PCI)
15	O	PERIWR-N	FlashROM Write Enable	55	I	PPREQ0-N	Bus Request (PCI)
16	O	NICFROM_CS	FlashROM Chip Select	56	O	PERIRD-N	FlashROM Read Enable
17	I/O	SDT22	AD Bus 22	57	I/O	SDT23	AD Bus 23
18	I/O	SDT20	AD Bus 20	58	I/O	SDT21	AD Bus 21
19	C	SG	Ground	59	C	SG	Ground
20	C	SG	Ground	60	C	SG	Ground
21	I/O	SDT18	AD Bus 18	61	I/O	SDT19	AD Bus 19
22	I/O	SDT16	AD Bus 16	62	I/O	SDT17	AD Bus 17
23	I/O	SDT25	AD Bus 25	63	I/O	SDT24	AD Bus 24
24	I/O	SDT27	AD Bus 27	64	I/O	SDT26	AD Bus 26
25	I/O	SDT29	AD Bus 29	65	I/O	SDT28	AD Bus 28
26	I/O	SDT31	AD Bus 31	66	I/O	SDT30	AD Bus 30
27	I/O	SDT9	AD Bus 9	67	I/O	SDT8	AD Bus 8
28	I/O	SDT11	AD Bus 11	68	I/O	SDT10	AD Bus 10
29	I/O	SDT13	AD Bus 13	69	I/O	SDT12	AD Bus 12
30	I/O	SDT15	AD Bus 15	70	I/O	SDT14	AD Bus 14
31	I/O	SDT6	AD Bus 6	71	I/O	SDT7	AD Bus 7
32	I/O	SDT4	AD Bus 4	72	I/O	SDT5	AD Bus 5
33	I/O	SDT2	AD Bus 2	73	I/O	SDT6	AD Bus 3
34	I/O	SDT0	AD Bus 0	74	I/O	SDT1	AD Bus 1
35	I	OPNIC-N	NIC Detect	75	I	OPNICSW-N	NIC Push Switch
36	O	RESET-N	Reset	76	I	OPSCC-N	RS232C Detect
37		NC	N.C.	77	C	SG	Ground
38	C	SG	Ground	78	C	SG	Ground
39	C	SG	Ground	79	O	+5V	+5V
40	O	+5V	+5V	80	O	+5V	+5V

* O : Out
I : In
C : Common

- FAN Connector Pin Assignment
  (To Fan)

	PIN NO.	I/O*	Signal	Function
1	1	O	FANPOW	Power Supply for Fan driving
2	2	C	OVP	Analog Ground
3	3	I	FANALM-P	Fan Alarm

* I: In
O: Out
C: Common

- USB Connector Pin Assignment
  (USB I/F)

1	3
2	4

PIN NO.	I/O*	Signal	Description
1	I	VCC	VCC
2	I/O	D-	D-
3	I/O	D+	D+
4	C	SG	Ground

* I: In
O: Out
C: Common

- CENT Connector Pin Assignment
  (IEEE1284 I/F)

1	19
2	20
3	21
4	22
5	23
6	24
7	25
8	26
9	27
10	28
11	29
12	30
13	31
14	32
15	33
16	34
17	35
18	36

Pin No.	I/O*	Signal	Function	Pin No.	I/O*	Signal	Function
1	I	STB-N	Strobe	19	C	SG	Logic Ground
2	C	DATA0-P	Data0	20	C	SG	Logic Ground
3	C	DATA1-P	Data1	21	C	SG	Logic Ground
4	C	DATA2-P	Data2	22	C	SG	Logic Ground
5	C	DATA3-P	Data3	23	C	SG	Logic Ground
6	C	DATA4-P	Data4	24	C	SG	Logic Ground
7	C	DATA5-P	Data5	25	C	SG	Logic Ground
8	C	DATA6-P	Data6	26	C	SG	Logic Ground
9	C	DATA7-P	Data7	27	C	SG	Logic Ground
10	O	ACK-N	Acknowledge	28	C	SG	Logic Ground
11	O	BUSY-P	Busy	29	C	SG	Logic Ground
12	O	PE-P	Paper End	30	C	SG	Logic Ground
13	O	SEL-P	Select	31	I	IPRIM-N	Iprime
14	I	AUTOFEED-N	Auto Feed	32	O	FAULT-N	Fault
15		NC	N.C.	33	C	SG	Logic Ground
16	C	SG	Logic Ground	34		NC	N.C.
17	C	FG	Frame Ground	35	O	HILEVEL	High Level
18	O	5VA	+5V	36	I	SELIN-N	Select In

* O : Out
I : In
C : Common

- CLT Connector Pin Assignment
  (To Hopping Clutch)

	PIN NO.	I/O*	Signal	Function
1	1	O	CLTON	Power Supply for clutch driving
2	2	O	OVP	Analog Ground

* O: Out
C: Common

- RM Connector Pin Assignment
  (To Resistration Motor)

	PIN NO.	I/O*	Signal	Function
1	1	O	RMPH1-P	Coil 1-P
2	2	O	RMPH1-N	Coil 1-N
3	3	O	RMPH2-P	Coil 2-P
4	4	O	RMPH2-N	Coil 2-N

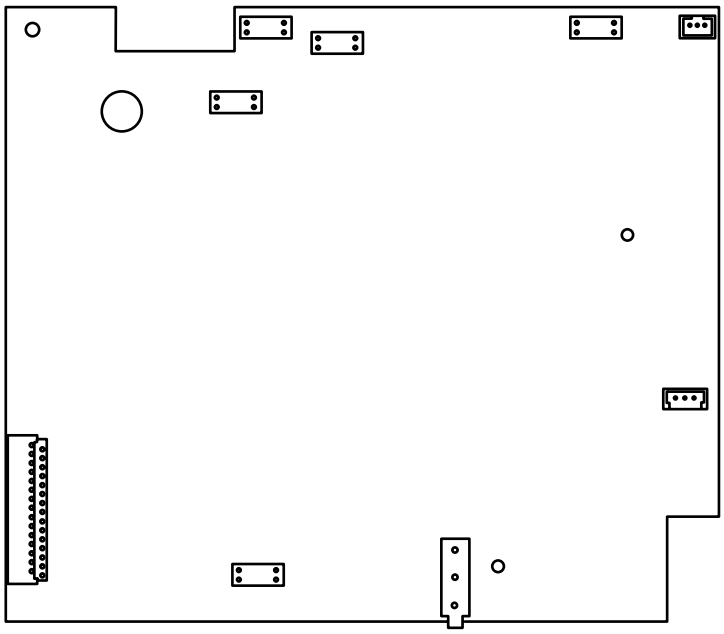
* O: Out

- DM Connector Pin Assignment
  (To Main Motor)

	PIN NO.	I/O*	Signal	Function
1	1	C	SG	Ground
2	2	O	+5V	+5V
3	3	O	DMPH2-P+24V	+24V
4	4	C	DMPH2-N OVP	Analog Ground
5	5	O	DMON-N	Motor stop/drive
6	6	I	DMLOCK-P	LOCK
7	7	O	CW-CCW	Rotatory direction
8	8	O	DMCLK	Clock
9	9	O	GAIN	Motor speed

* I : In
O: Out
C: Common

(2) High Voltage / Sensor Board



- CN1 Connector Pin Assignment
  (To Main Control Board)

		PIN NO.	I/O*	Signal	Function
1		1	I	WRSNS-N	Write Sensor
	2	2	I	IN1SNS-N	Paper Sensor 1
3		3	I	TONER-N	Toner Sensor
	4	4	I/O	1-WIRE	EEPROM 1-wire signal
5		5	I	PAPER-N	Paper Out Sensor
	6	6	C	SG	Ground
7		7	O	SBPWN-P	SB2 Output
	8	8	O	CB2PWN-P	CB2 Output
9		9	O	DB1PWM	DB1 Output
	10	10	C	SG	Ground
11		11	O	CB1PWM	Cb1 Output
	12	12	C	SG	Ground
13		13	I	TRI_FB	TR1 Current Feedback
	14	14	I	TRV_FB	TR1 Voltage Feedback
15		15	I	DB2_V_FB	DB2 Voltage Feedback
	16	16	I	CHI	CH Current Feedback
17		17	I	CH_V_FB	CH Voltage Feedback
	18	18	I	DB_I	DB Current Feedback
19		19	I	SB_V_FB	SB2 Voltage Feedback
	20	20	C	SG	Ground
21		21	O	CHPWM-P	CH Output Control
	22	22	O	DB2PWM	DB2 Output
23		23	O	TR2PWM-P	TR2 output
	24	24	O	TR1PWM-P	TR1 Output Control
25		25	O	+5V	+5V
	26	26	O	+5V	+5V
27		27	C	SG	Ground
	28	28	I	THERM	Thermistor
29		29	I	OUTSNS-N	Out Sensor
	30	30	I	CVOPN-N	Cover Open

* I: In
O: Out
C: Common

- CN2 Connector Pin Assignment
  (To Thermistor)

	PIN NO.	I/O*	Signal	Function
1	1	O	+V5	+5V
2	2	NC	NC	Non Connection
3	3	I	THERM	Thermistor

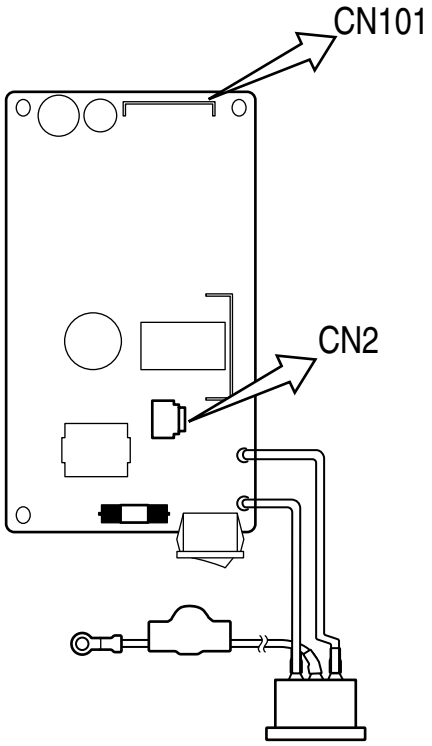
*I : In
O : Out
NC : Non Connection

- CN3 Connector Pin Assignment
  (To EEPROM on the Toner Cartridge)

	PIN NO.	I/O*	Signal	Function
1	1	C	SG	Ground
2	2	NC	NC	Non Connection
3	3	I/O	1-WIRE	EEPROM 1-wire signal

*I : In
O : Out
NC : Non Connection
C : Common

(3) Power Supply Board



- CN101 Connector Pin Assignment
  (To Main Control Board)

	PIN NO.	I/O*	Signal	Function
1	1	O	5VH	+5V for LED HEAD
2	2	O	5VH	+5V for LED HEAD
3	3	C	GND	Ground
4	4	C	GND	Ground
5	5	C	GND	Ground
6	6	C	GND	Ground
7	7	O	+24V	+24V
8	8	O	+24V	+24V
9	9	I	HEATON-N	Heater On
10	10	O	5VL	+5V for Logic
11	11	O	5VL	+5V for Logic
12	12	C	GND	Ground
13	13	C	GND	Ground
14	14	O	ACZEROC	AC Zero Cross

* I : In
  O : Out
  C : Common

- CN2

Pin No.		Signal	Function
1	—	AC	AC(NEUTRAL)
2	NC	—	non-connect
3	—	AC	AC(LINE)

- ROM_DIMM Connector Pin Assignment

Pin No.	I/O*	Signal	Function
01	C	SG	Ground
02		NC	N.C.
03		NC	N.C.
04		NC	N.C.
05		NC	N.C.
06		NC	N.C.
07		NC	N.C.
08		NC	N.C.
09		NC	N.C.
10	O	+3.3V	+3.3V
11		NC	N.C.
12		NC	N.C.
13		NC	N.C.
14		NC	N.C.
15	C	SG	Ground
16	C	SG	Ground
17		NC	N.C.
18		NC	N.C.
19		NC	N.C.
20		NC	N.C.
21	I/O	DBUS11	Data Bus 11
22	I/O	DBUS4	Data Bus 4
23	I/O	DBUS3	Data Bus 3
24	I/O	DBUS12	Data Bus 12
25	I/O	DBUS10	Data Bus 10
26	I/O	DBUS5	Data Bus 5
27	C	SG	Ground
28	C	SG	Ground
29	I/O	DBUS2	Data Bus 2
30	O	+3.3V	+3.3v
31	I/O	DBUS9	Data Bus 9
32	I/O	DBUS13	Data Bus 13
33	I/O	DBUS1	Data Bus 1
34	I/O	DBUS6	Data Bus 6
35	I/O	DBUS8	Data Bus 8
36	I/O	DBUS14	Data Bus 14

Pin No.	I/O*	Signal	Function
37	I/O	DBUS0	Data Bus 0
38	I/O	DBUS7	Data Bus 7
39	C	SG	Ground
40	C	SG	Ground
41	O	WBEN0	Write Enable
42	I/O	DBUS15	Data Bus 15
43	O	CPU_CS3-N	Chip select 3
44	O	CPU_OE-N	Output Enable
45	O	ABUS14	Address Bus 14
46	O	CPU_CS2-N	Chip select 2
47	O	ABUS15	Address Bus 15
48	O	ABUS30	Address Bus 30
49	O	ABUS16	Address Bus 16
50	O	ABUS29	Address Bus 29
51	O	ABUS17	Address Bus 17
52	O	ABUS28	Address Bus 28
53	O	ABUS18	Address Bus 18
54	O	ABUS27	Address Bus 27
55	O	ABUS19	Address Bus 19
56	O	ABUS26	Address Bus 26
57	O	ABUS20	Address Bus 20
58	O	ABUS25	Address Bus 25
59	O	ABUS21	Address Bus 21
60	O	ABUS24	Address Bus 24
61	O	+3.3V	+3.3v
62	O	ABUS23	Address Bus 23
63	O	ABUS22	Address Bus 22
64	O	ABUS13	Address Bus 13
65	O	ABUS11	Address Bus 11
66	O	ABUS12	Address Bus 12
67	O	ABUS10	Address Bus 10
68	O	ABUS9	Address Bus 9
69	O	ABUS8	Address Bus 8
70	O	ABUS7	Address Bus 7
71	O	RESET-N	Reset
72	C	SG	Ground

* O : Out
I : In
C : Common

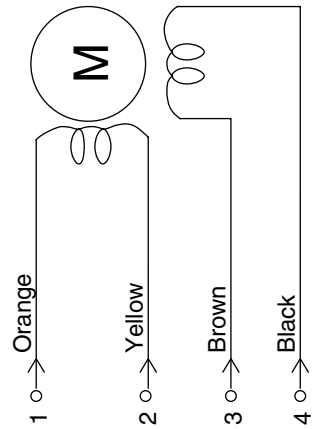
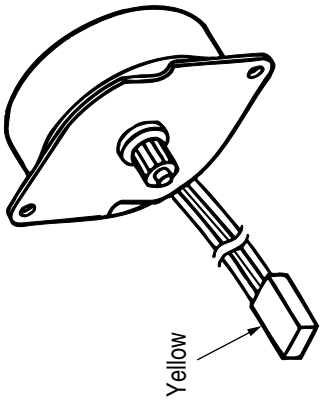
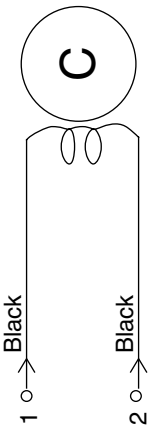
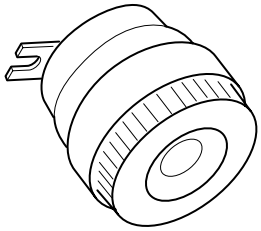
- RAM_DIMM Connector Pin Assignment

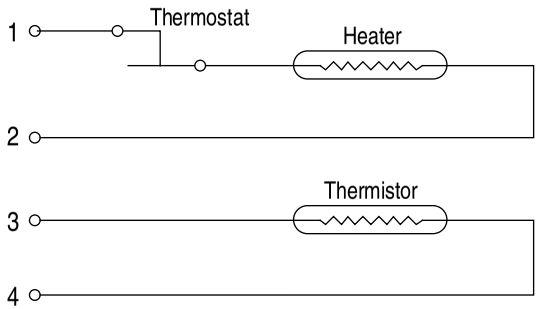
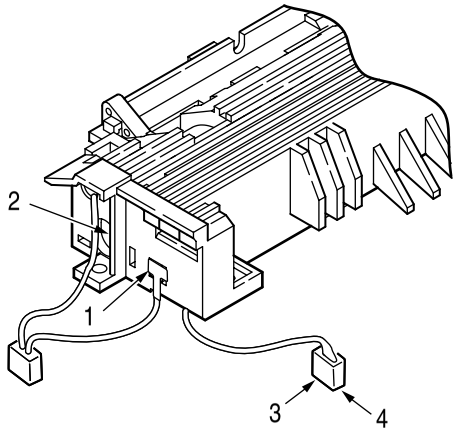
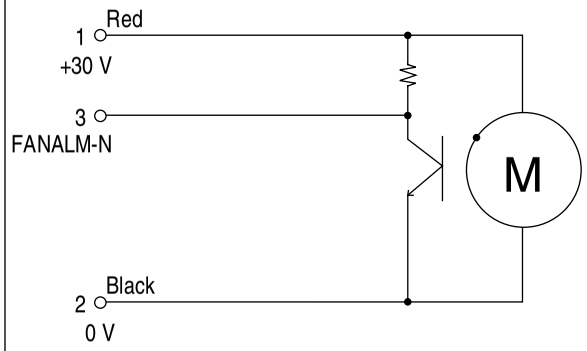
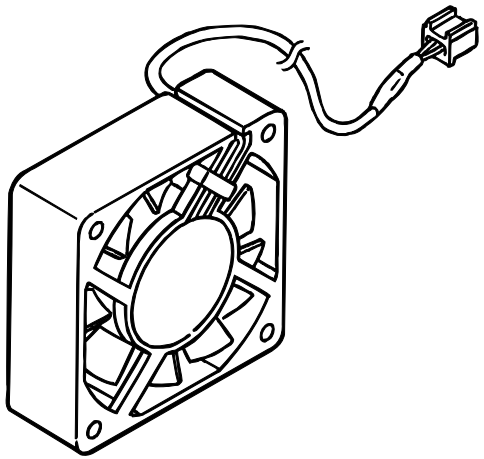
Pin No.	I/O*	Signal	Function
01	C	SG	Ground
02		NC	N.C.
03		NC	N.C.
04		NC	N.C.
05		NC	N.C.
06		NC	N.C.
07		NC	N.C.
08		NC	N.C.
09		NC	N.C.
10	O	+3.3V	+3.3V
11		NC	N.C.
12		NC	N.C.
13		NC	N.C.
14		NC	N.C.
15	C	SG	Ground
16	C	SG	Ground
17		NC	N.C.
18		NC	N.C.
19		PERIRD-N	N.C.
20		NC	N.C.
21		NC	N.C.
22	O	RAM_CS2-N	Chip select 2
23		NC	N.C.
24	O	SAD3	Address Bus 3
25	O	RAM_CLK1	Clock
26	O	SAD2	Address Bus 2
27	C	SG	Ground
28	C	SG	Ground
29	O	SAD4	Address Bus 4
30	O	+3.3V	+3.3v
31	O	SAD5	Address Bus 5
32	O	SAD1	Address Bus 1
33	O	SAD6	Address Bus 6
34	O	SAD0	Address Bus 0
35	O	SAD7	Address Bus 7
36	O	SAD10	Address Bus 10

Pin No.	I/O*	Signal	Function
37	O	SAD8	Address Bus 8
38	O	SAD13	Address Bus 13
39	C	SG	Ground
40	C	SG	Ground
41	O	SAD9	Address Bus 9
42	O	SAD12	Address Bus 12
43	O	SAD11	Address Bus 11
44	O	RAM_CS1-N	Chip select 1
45		PERIWR-N	Address Bus 14
46	O	RAM_RAS-N	Row Address
47	O	RAM_CKE-N	Clock Enable
48	C	SG	Ground
49	O	RAM_CLK1	Clock
50	O	RAM_CAS-N	Column Address Strobe
51	O	RAM_DQM1	Byte Enable 1
52	O	RAM_WE-N	Write Enable
53	I/O	SDT8	Data Bus 8
54	O	RAM_DQM0	Write Enable 0
55	I/O	SDT9	Data Bus 9
56	I/O	SDT7	Data Bus 7
57	I/O	SDT10	Data Bus 10
58	I/O	SDT6	Data Bus 6
59	I/O	SDT11	Data Bus 11
60	I/O	SDT5	Data Bus 5
61	O	+3.3V	+3.3v
62	I/O	SDT4	Data Bus 4
63	I/O	SDT12	Data Bus 12
64	I/O	SDT3	Data Bus 3
65	I/O	SDT13	Data Bus 13
66	I/O	SDT2	Data Bus 2
67	I/O	SDT14	Data Bus 14
68	I/O	SDT1	Data Bus 1
69	I/O	SDT15	Data Bus 15
70	I/O	SDT0	Data Bus 0
71	I	OPRAM-N	RAM-DIMM Detect
72	C	SG	Ground

* O : Out
I : In
C : Common

6.3 Resistance Check

Unit	Circuit Diagram	Illustration	Resistance
Registration motor			Between Pins 1 and 2: 7.9Ω Between Pins 3 and 4: 7.9Ω
Hopping clutch			Between Pins 1 and 2: 144Ω

Unit	Circuit Diagram	Illustration	Resistance
Fusing unit			Between Pins 1 and 2: 120V / 2Ω 240V / 7Ω Between Pins 3 and 4: 200KΩ (at room temperature)
Fan			

Oki Data CONFIDENTIAL

APPENDIX A RS-232C SERIAL INTERFACE (option)

1) Connector

- Printer side : 25-pin receptacle
  Type DB-25S (made by Canon) or equivalent
- Cable side : 25-pin plug
  Type DB-25S (made by Canon)
  Shell
  Type DB-C8-J10-F2-1 (made by Nihon Kouku Denshi) or equivalent

Note: Plug shall be fixable with a lock screw.

2) Cable

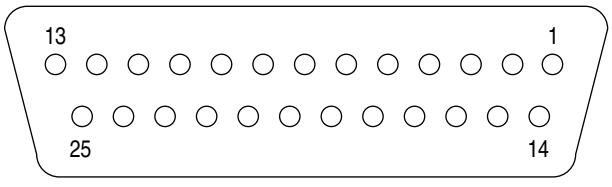
- Cable length : 6 ft (1.8 m) max. (cable shall be shielded)

Note: Cable is not provided.

3) Interface signal

Pin No.	Signal name	Abbreviation	Signal direction	Functions
1	Frame Ground	FG		Frame Ground
2	Transmitted Data	TD	← PR	Transmitted Data
3	Received Data	RD	→ PR	Received Data
4	Request to Send	RTS	← PR	Stay space level
5	-			(Not connected)
6	-			(Not connected)
7	Signal Ground	SG		Signal Ground
9 ~ 17	-			(Not connected)
18	-			(Not connected)
19	-			(Not connected)
20	Data Terminal Ready	DTR	← PR	Data terminal ready
21 ~ 25	-			(Not connected)

- Connector pin arrangement



(View from the cable side)

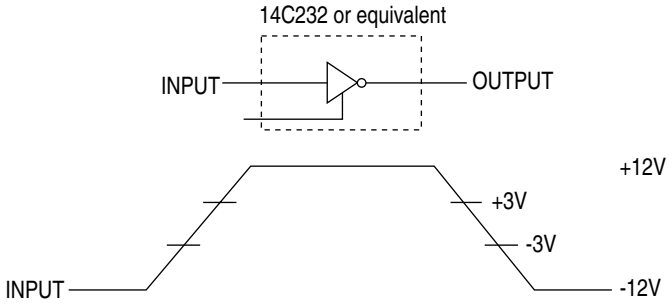
When the Ready/Busy protocol is used for the buffer busy control method, the busy signal can be set to Pin-20 (DTR) in the menu.

4) Signal Level

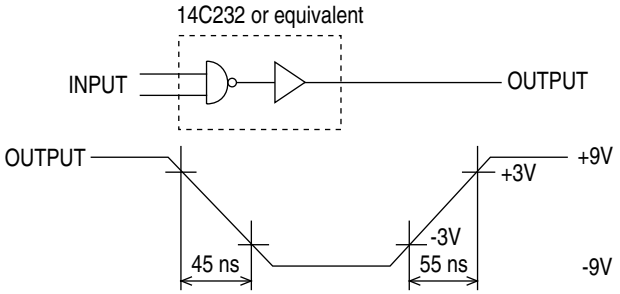
- MARK polarity : -3V to -15V (LOGIC = 1)
- SPACE polarity : +3V to +15V (LOGIC = 0)

5) Interface Circuit

a) Receiving Circuit



b) Sending Circuit



Note: The signal levels described above is for the case where 3K Ω x 15pF is connected to the terminal.

6) Receive Margin

37% min. at all reception rates.

7) Communications Protocol

a) READY/BUSY protocol
b) X-ON/X-OFF protocol

APPENDIX B CENTRONICS PARALLEL INTERFACE

1) Connector

- Printer side : 36-pin receptacle
  (single port) Type 57RE-40360-730B-D29A (made by Daiichi Denshi), CN-AX05841A36AT (made by Ougat) or equivalent
- Cable side : 36-pin plug
  Type 57-30360 (made by Daiichi Denshi) or equivalent
  Plug-552274-1 (AMP), 552073-1 (AMP) or equivalent

2) Cable

- Cable length : 6 ft (1.8 m) max.

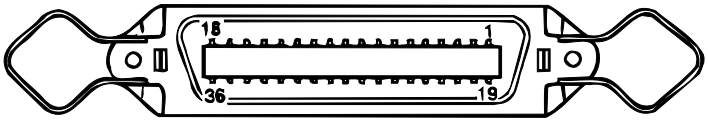
(A Shielded cable composed of twisted pair wires is recommended for noise prevention.)

Note: Cable is not supplied with the printer, and is not available from Oki.

3) Table of Parallel I/F Signals

Pin No.	Signal name	Signal direction	Functions
1	$\overline{\text{DATA STROBE}}$	→ PR	Parallel data sampling strobe
2	DATA BIT - 1	→ PR	PR Parallel input and output data
3	DATA BIT - 2		
4	DATA BIT - 3		
5	DATA BIT - 4		
6	DATA BIT - 5		
7	DATA BIT - 6		
8	DATA BIT - 7		
9	DATA BIT - 8		
10	$\overline{\text{ACKNOWLEDGE}}$	← PR	Completion of data input or end of a function
11	BUSY	← PR	During print processing or alarm
12	PAPER END	← PR	End of paper
13	SELECT	← PR	Select state (ON-LINE)
14	$\overline{\text{AUTOFEED}}$	→ PR	Request to change mode
15	-		(Not used)
16	0V		Signal ground
17	CHASSIS GROUND		Chassis ground
18	+5V	← PR	50 mA max.
19 ⋮ 30	0V		Signal ground
31	$\overline{\text{INPUT PRIME}}$	→ PR	Initializing signal
32	$\overline{\text{FAULT}}$	← PR	End of paper or during alarm
33	-		Signal ground
34	-		(Not used)
35	-		High level (3.3 kΩ)
36	$\overline{\text{SELECT IN}}$	→ PR	Request to change mode

• Connector pin arrangement



4) Signal Level

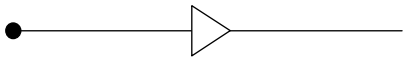
- INPUT
  Low : 0 V to +0.4 V
  High : +2.4 V to 5.0 V
- OUTPUT
  Low : 0 V to +0.4 V
  High : +2.0 V to 5.0 V

5) Specifications

Item	Description
Mode	Compatibility mode, Nibble mode, ECP mode
Data bit length	8 bits (in the compatibility mode)
Input prime	Valid/Invalid
Receive buffer	0.1M, 0.2M, 0.5M Bytes
Control	Handshaking control is performed in each mode. Data received from the host is stored in the receive buffer. Busy control is performed. Signal lead control is performed.

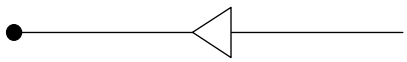
6) Interface circuit

a) Receiving circuit



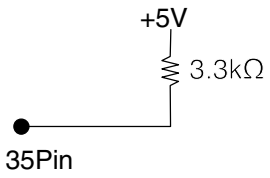
LVC161284

b) Sending circuit



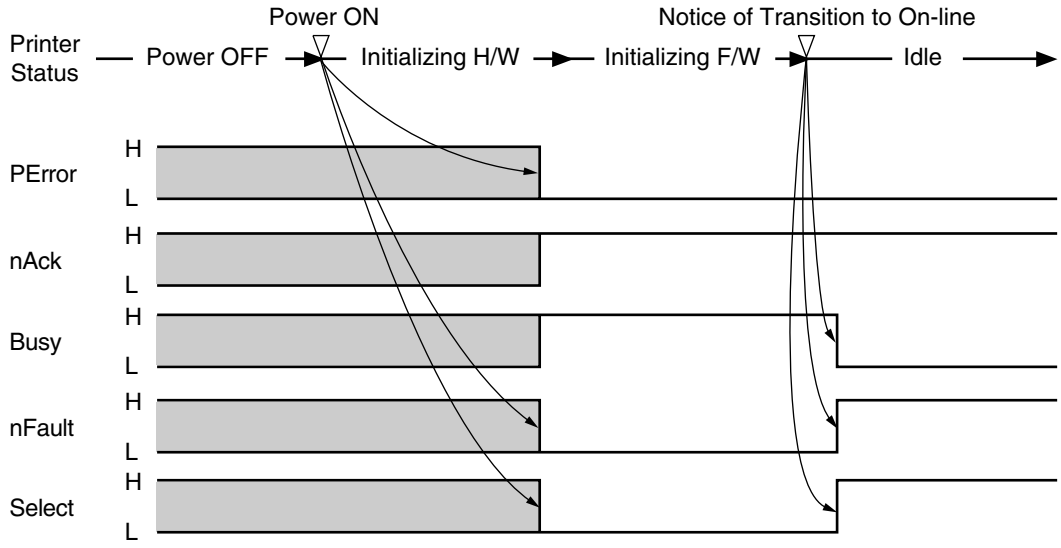
LVC161284

c) Other

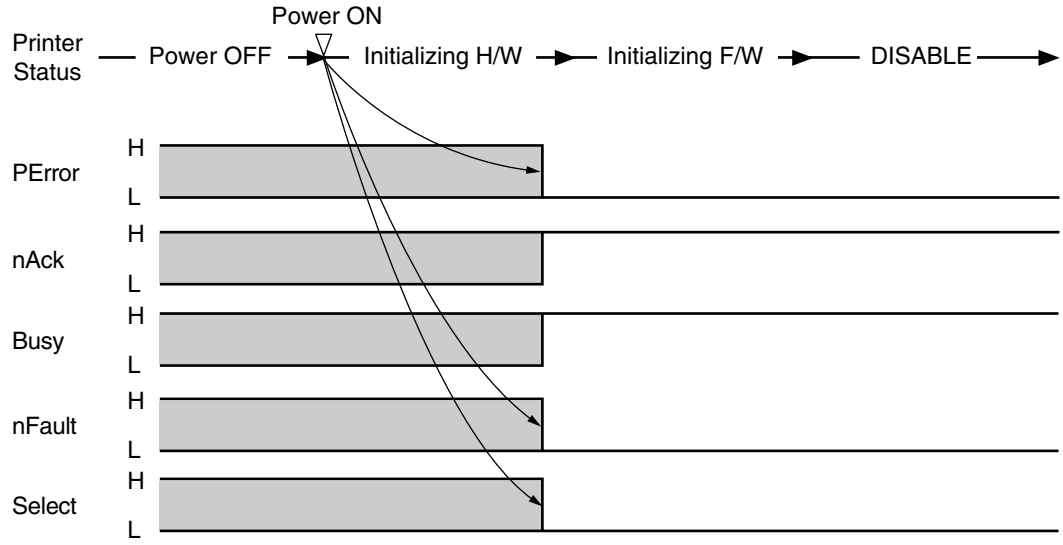


7) Timing charts

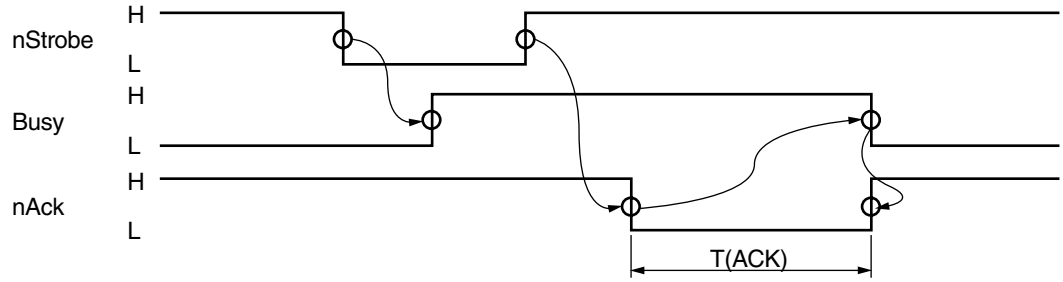
a) Power-ON (Menu Setting: PARALLEL=ENABLE)



b) Power-ON (Menu Setting: PARALLEL=DISABLE)

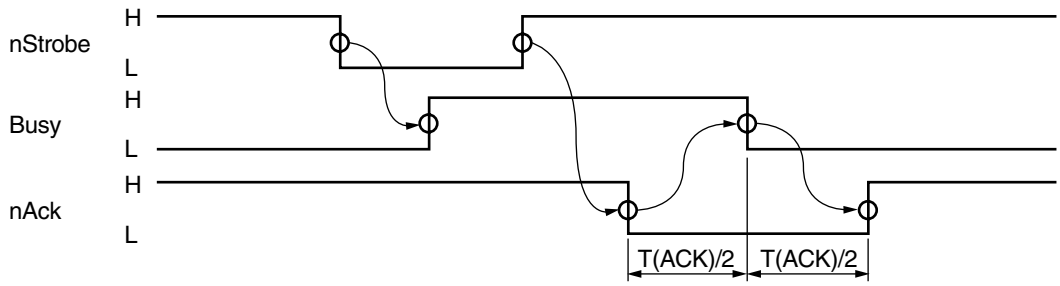


c) Data Reception (Menu Setting: Ack/Busy Timing=Ack in Busy)



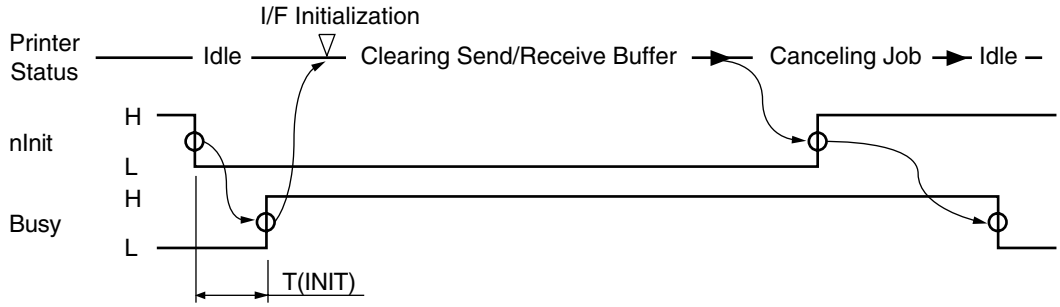
Menu Setting (Ack Width)	NARROW	MEDIUM	WIDE
T(ACK)	0.5µs	1.0µs	3.0µs

d) Data Reception (Menu Setting: Ack/Busy Timing=Ack while Busy)



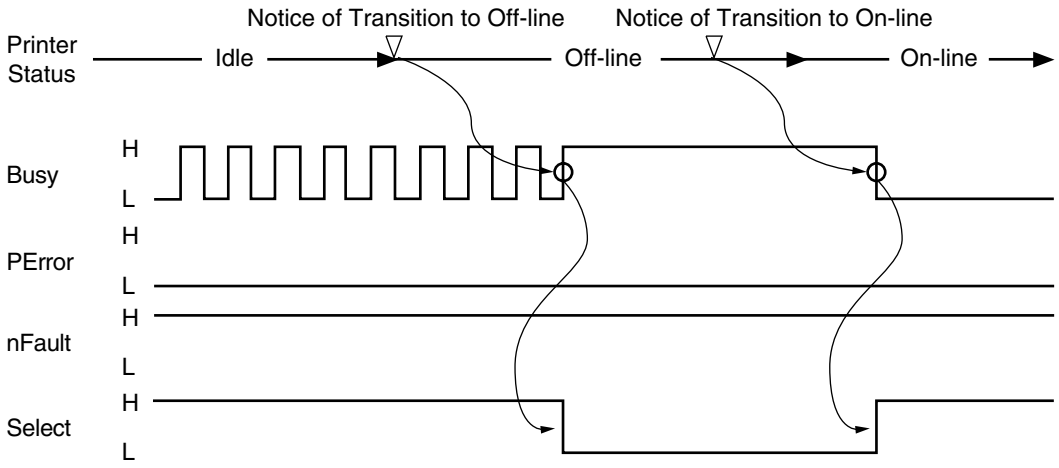
* The T (ACK) values are the same as those shown in the section c).

e) I-Prime (Not at menu-set I-PRIME=DISABLE)

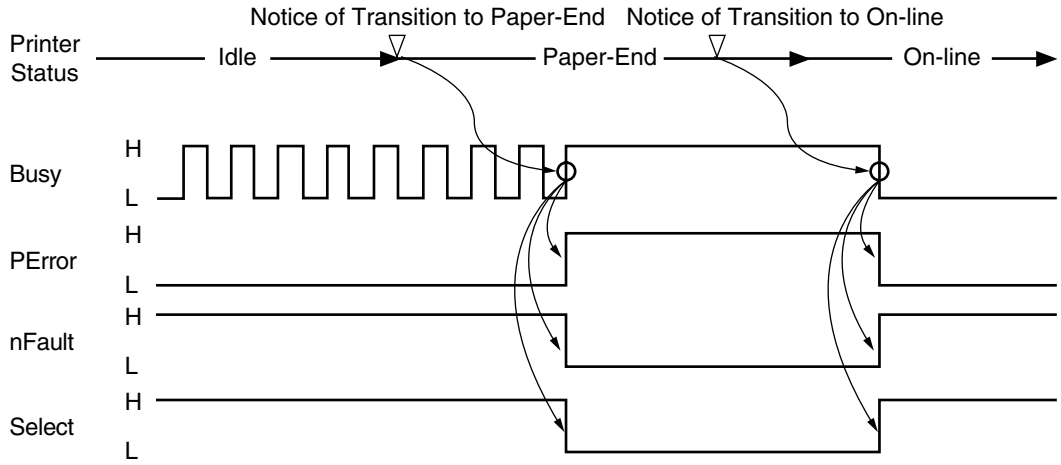


Menu Setting (I-PRIME)	3 MICRON SEC	50 MICRON SEC
T(INIT)	2.0µs	33.3µs

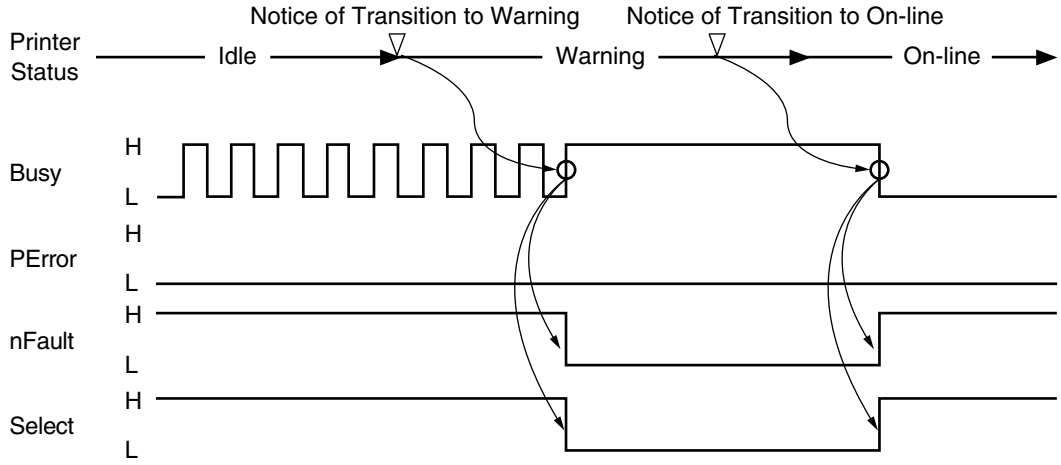
f) Off-line



g) Paper-End



h) Warning (Paper-end state is excluded)



APPENDIX C Universal Serial Bus (USB)

Universal Serial Bus Specification Revision 2.0 full speed compliance.

1) Connector

- Printer Side : “B” Receptacle (Upstream Input to the USB Device)
- Cable Side : Series “B” Plug

2) Cable

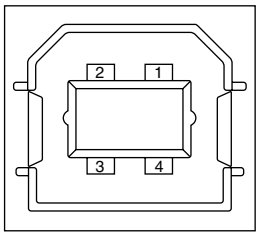
- Cable Length : Max 2m (A cable must be met USB Spec Rev 2.0 for normal operation)

Note: Cable is not provided.

3) Table of USB I / F signals

Contact Number	Signal Name
1	Vbus
2	D -
3	D +
4	GND
Shell	Shield

4) Connector pin arrangement



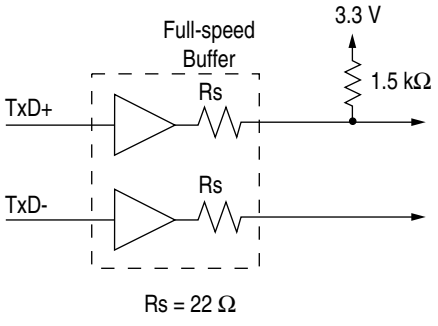
5) Mode & Class of Device

- Full - speed Driver
- Self - powered Device

6) Data Signaling Rate

- Full - speed function - 12Mb/s

7) Interface circuit



8) Signal Level

- Input / Output Level

Parameter	Symbol	Min.	Max.	Units
Input Levels :				
High (driven)	V_{IH}	2.0		V
High (floating)	V_{IHZ}	2.7	3.6	V
Low	V_{IL}		0.8	V
Output Levels :				
Low	OL	0.0	0.3	V
High (driven)	OH	2.8	3.6	V
Output Signal Crossover Voltage	V_{CRS}	1.3	2.0	V

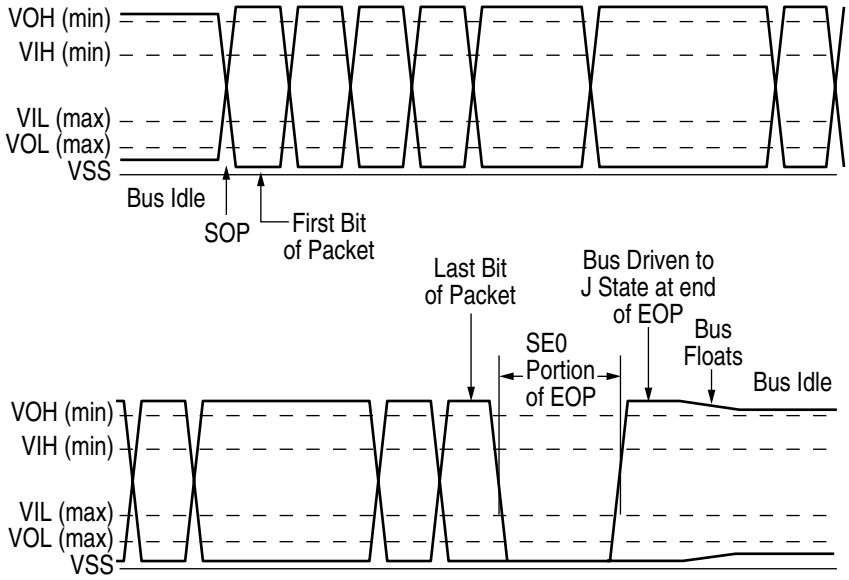
- Signaling Levels

Bus State	Signaling Levels	
	Required	Acceptable
Differential "1"	(D+) - (D-) > 200mV and D+ > V_{IH} (min)	(D+) - (D-) > 200mV
Differential "0"	(D-) - (D+) > 200mV and D- > V_{IH} (min)	(D-) - (D+) > 200mV
Single-ended 0 (SE0)	D+ and D- < V_{IL} (max)	D+ and D- < V_{IH} (min)
Data J state: Low-speed Full-speed	 Differential "0" Differential "1"	
Data K state: Low-speed Full-speed	 Differential "1" Differential "0"	
Idle state: Low-speed Full-speed	 D- > V_{IHZ} (min) and D+ < V_{IL} (max) D+ > V_{IHZ} (min) and D- < V_{IL} (max)	 D- > V_{IHZ} (min) and D+ < V_{IH} (min) D+ > V_{IHZ} (min) and D- < V_{IH} (min)
Resume state	Data K state	
Start-of-Packet (SOP)	Data lines switch from Idle to K state	
End-of-Packet (EOP)	SE0 for ≥ 1 bit time[1] followed by a J state for 1 bit time	SE0 for ≥ 1 bit time[1] followed by a J state
Disconnect (at downstream port)	SE0 for ≥ 2.5µs	
Connect (at downstream port)	Idle for ≥ 2ms	Idle for ≥ 2.5µs
Reset	D+ and D- < V_{IL} (max) for ≥ 10ms	D+ and D- < V_{IL} (max) for ≥ 2.5µs

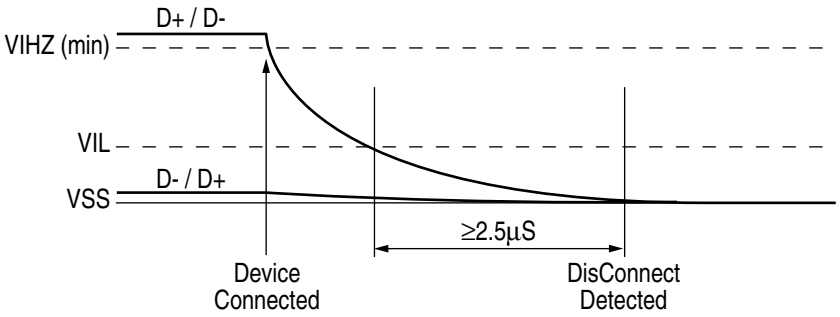
Note: The width of EOP is defined in bit times relative to the device type receiving the EOP. The bit time is approximate.

9) Timing Chart

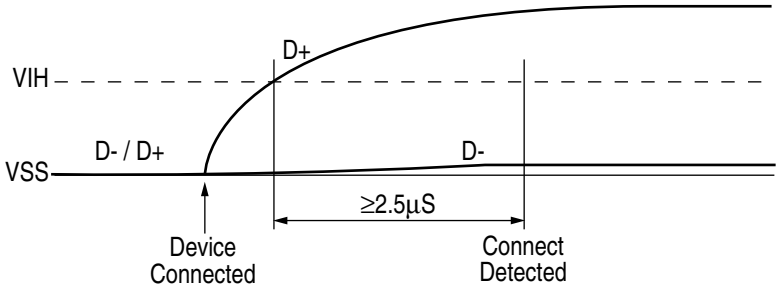
a) Packet Voltage Levels



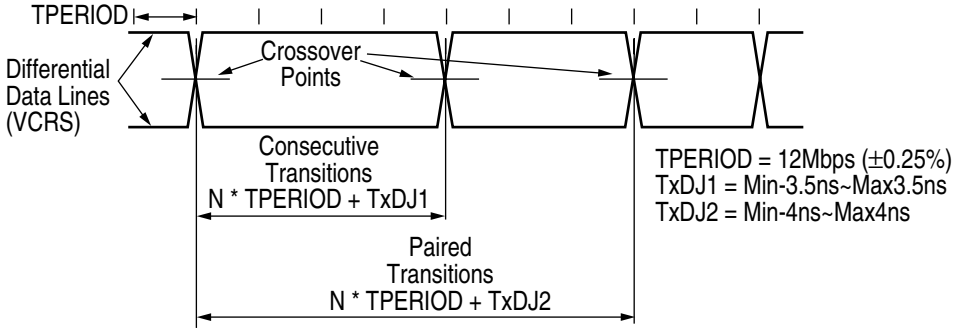
b) Disconnect Detection



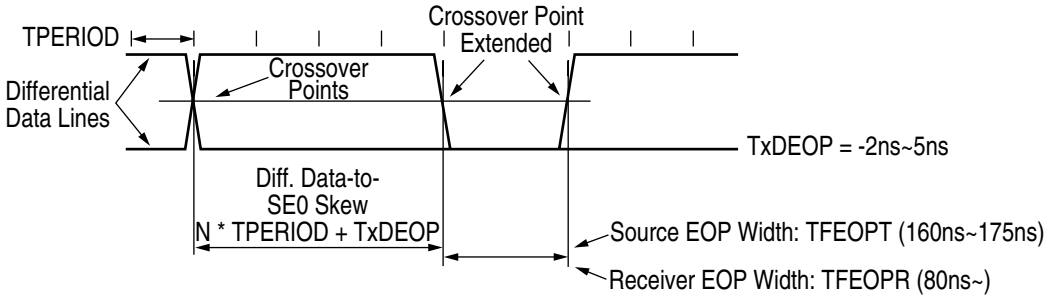
c) Full-speed Device Connect Detection



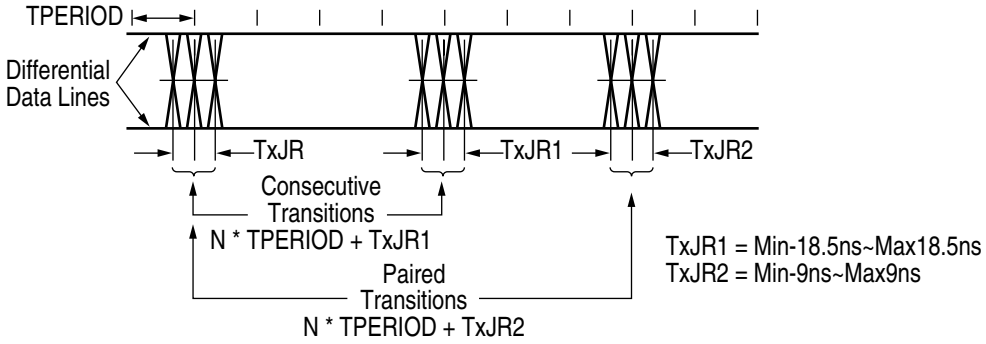
d) Differential Data Jitter



e) Differential-to-EOP Transition Skew and EOP Width



f) Receiver Jitter Tolerance



APPENDIX D MULTI PURPOSE FEEDER MAINTENANCE

1. OUTLINE

1.1 Functions

This Multi-Purpose Feeder is installed on the front section of the printer, and it supplies paper automatically through the operation of pulse motor, which is driven by signals sent from the printer. The main functions are the followings:

- Paper that can be used:

[Paper Types]

- Standard paper: Xerox 4200 (20-lb)
- Special paper: OHP sheets (for PPC), label sheets (PPC sheets)
  * Not guaranteed for OHP sheets with attachments on the edge or reverse side.
- Cut sheet size: Letter, Executive, A4, A5, B5, Statement, A6, COM9, COM10, Monarch, DL, C5

  Special size: Width: 87 to 216mm
  Length: 148 to 297mm

[Weight and Thickness]

- 16-lb to 32-lb (60~128 g/m^2)
- For labels and OHP Sheets: Label sheets: 0.1 to 0.15mm
  OHP sheets: 0.08 to 0.11mm

* When using sheets which exceed 24-lb, make sure that the paper exits through the face-up route.

1.2 External View and Component Names

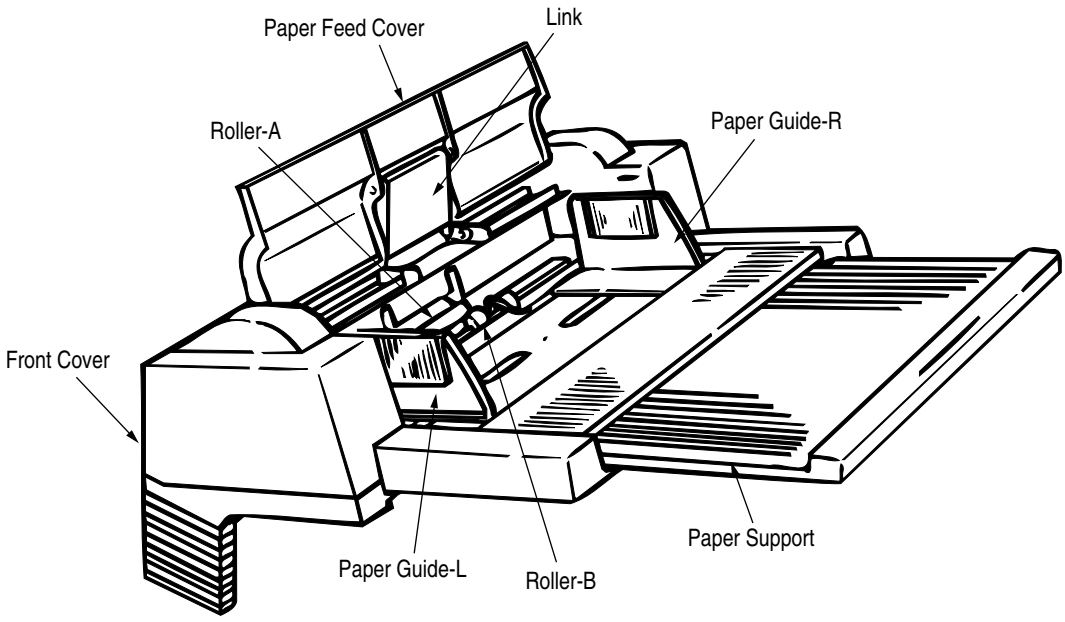


Figure 1-1

2. MECHANISM DESCRIPTION

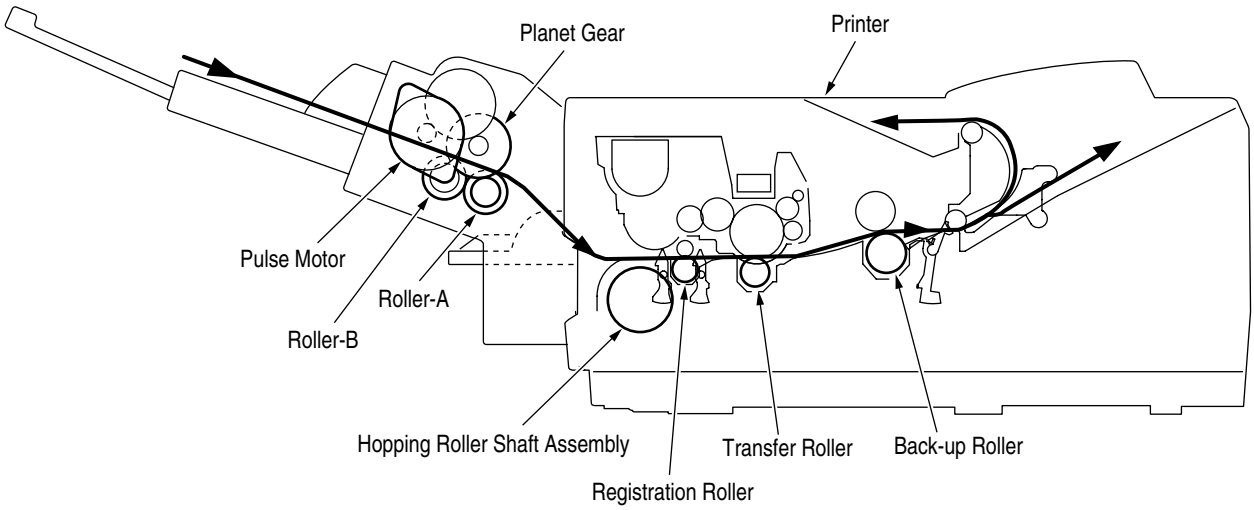
2.1 General Mechanism

The Multi-Purpose Feeder feeds the envelopes and paper into the printer by receiving the signal from the printer, which drives the pulse motor inside the Multi-Purpose Feeder, and this motion is transmitted to rotate roller-A and B. The envelope or paper is delivered from the separator into the printer.

Once delivered into the printer, the envelope or paper is then controlled and fed through by pulse motor (registration) of the printer.

2.2 Hopper Mechanism

The hopper automatically feeds the printer with the envelope or paper being set, one sheet at a time. After the envelope or paper is set in the Multi-Purpose Feeder, the pulse motor moves the envelope or paper and a single envelope or paper caught by the separator is fed into the printer.



3. PARTS REPLACEMENT

This section covers the procedures for the disassembly, reassembly and installations in the field. This section describes the disassembly procedures, and for reassembly procedures, basically proceed with the disassembly procedures in the reverse order.

3.1 Precautions Concerning Parts Replacement

(1) Parts replacements must be carried out, by first turning the printer power switch off "O" and removing the Multi-Purpose Feeder from the printer.

(2) Do not disassemble the Multi-Purpose Feeder if it is operating normally.

(3) Establish the extent of disassembly suitable for the purpose of the procedure, and do not disassemble any more than necessary.

(4) Only specified service tools may be used.

(5) Disassembly must be carried out according to the prescribed procedures. Parts may be damaged if such procedures are not followed.

(6) Small parts such as screws and collars can easily be lost, therefore these parts should be temporarily fixed in the original location.

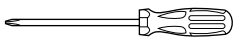
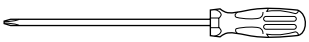
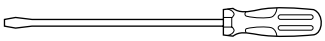
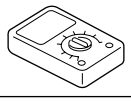
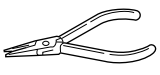
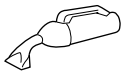
(7) When handling printed circuit boards, do not use any glove which may generate static electricity.

(8) Do not place the printed circuit boards directly on the equipment or floor.

[Service Tools]

Table 3-1 shows the tools required for the replacement of printed circuit boards, assemblies and units in the field.

Table 3-1 Service Tools

No.	Service Tools		Q'ty	Application	Remarks
1		No. 1-100 Philips screwdriver	1	2 ~ 2.5 mm screws	
2		No. 2-100 Philips screwdriver	1	3 ~ 5 mm screws	
3		No. 3-100 screwdriver	1		
4		No. 5-200 screwdriver	1		
5		Digital multimeter	1		
6		Pliers	1		
7		Handy cleaner	1		Reter to the following note.

Note! Use a vacuum cleaner dealing with toner. Using a common vacuum cleaner may cause fire.

3.2 Parts Layout

This section describes the layout of the main components.

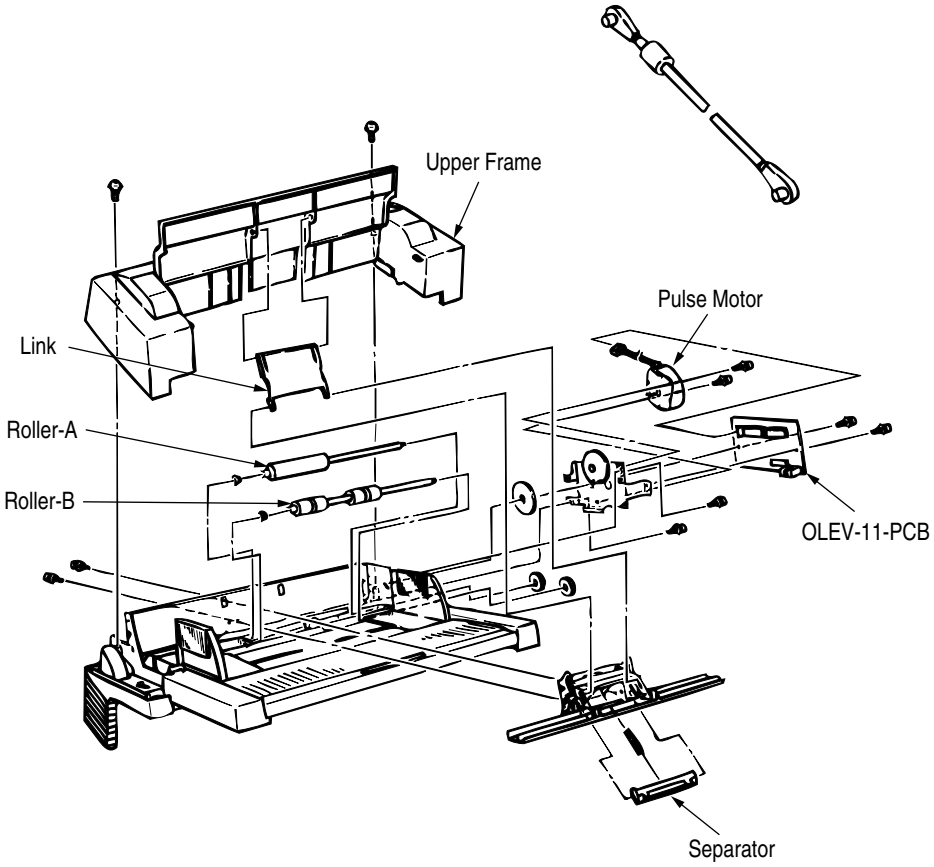


Figure 3-1

3.3 Parts Replacement Methods

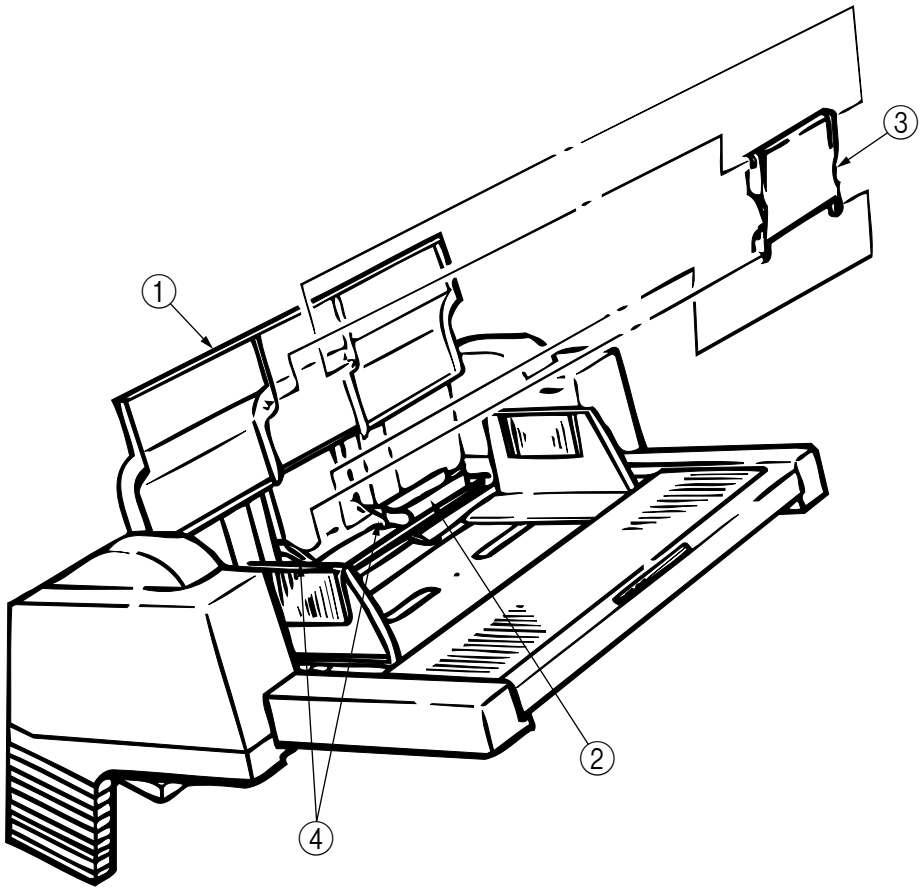
This section describes the parts replacement methods for the components listed in the disassembly order diagram below.

Multi-Purpose Feeder
- Link (3.3.1)
- Separator (3.3.2)
- OLEV-11-PCB (3.3.3)
- Pulse motor (3.3.4)
- Planet gear (3.3.5)
- Roller-A (3.3.6)

3.3.1 Link

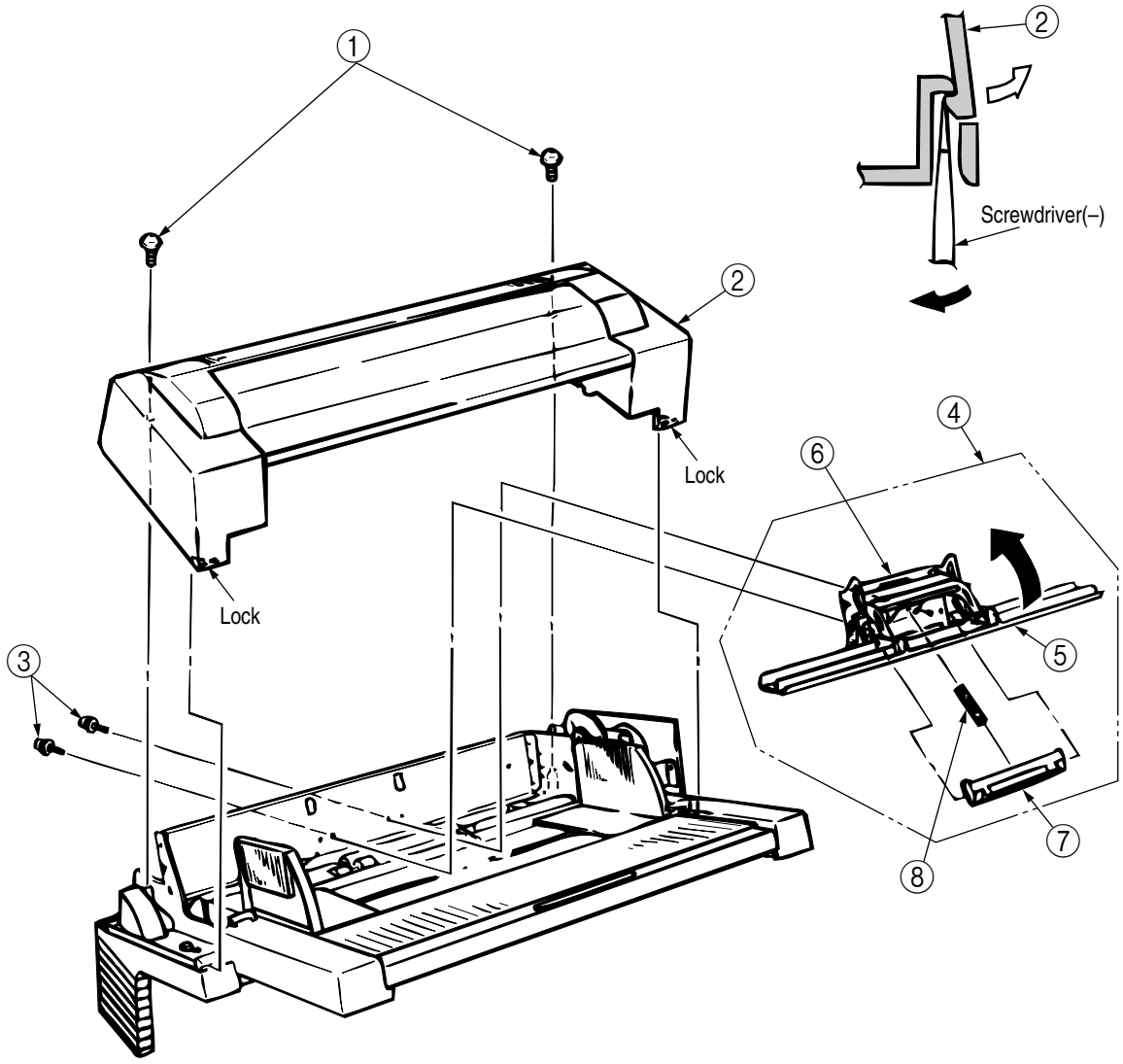
(1) Open paper feed cover ①, and disengage the paper feed cover ① and link ③, while lifting the paper hold ②.
(2) Remove the paper hold ② off the arm ④.
(3) Disengage the link ③ from the arm ④, and remove it.

* Be careful not to deform the link and arm.



3.3.2 Separator

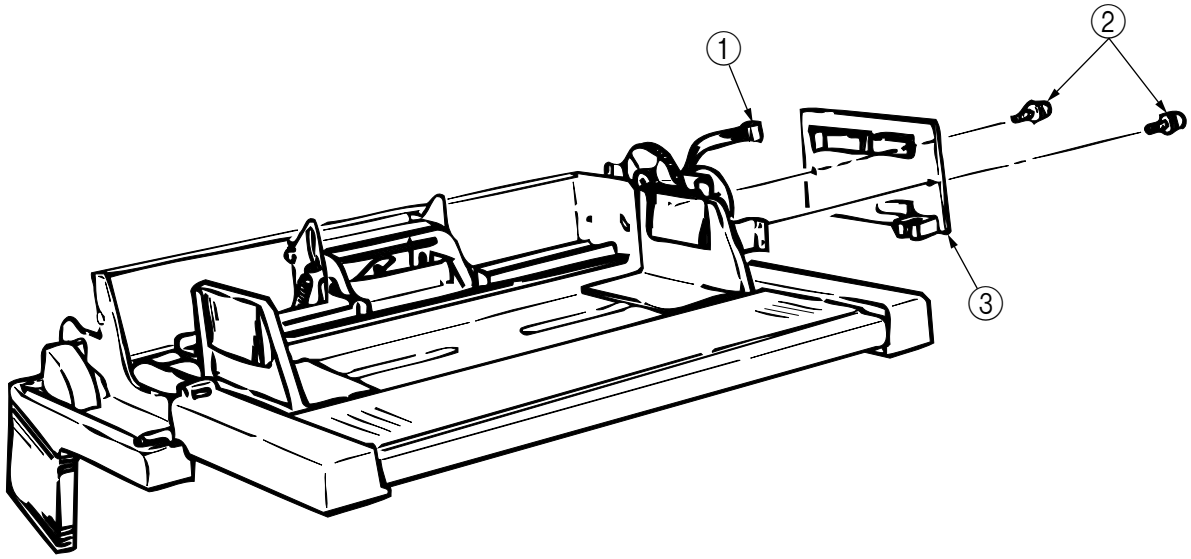
(1) Turn the power switch off “O” and remove the connector cable.
(2) Disengage the link and paper feeder cover (see 3.3.1).
(3) Remove 2 screws ①, disengage the locks at 2 locations on the upper frame ② with a screwdriver, and remove the upper frame ②.
(4) Remove 2 screws ③, and take out the separator assembly ④.
(5) Disengage the separator ⑦ from the separator bracket ⑥ while lifting the paper hold ⑤, and take out the separator (be careful not to lose the spring ⑧ when you are doing this).

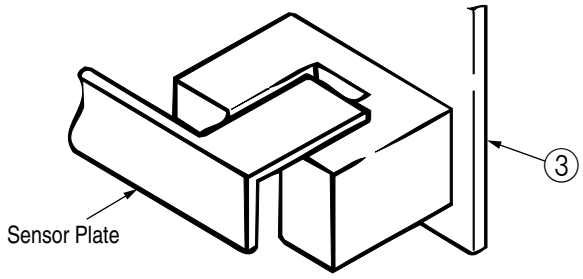


3.3.3 OLEV-11-PCB

(1) Remove the upper frame [see 3.3.2 steps (1) through (3)].
(2) Remove the connector ①.
(3) Remove 2 screws ②, and remove the OLEV-11 PCB ③.

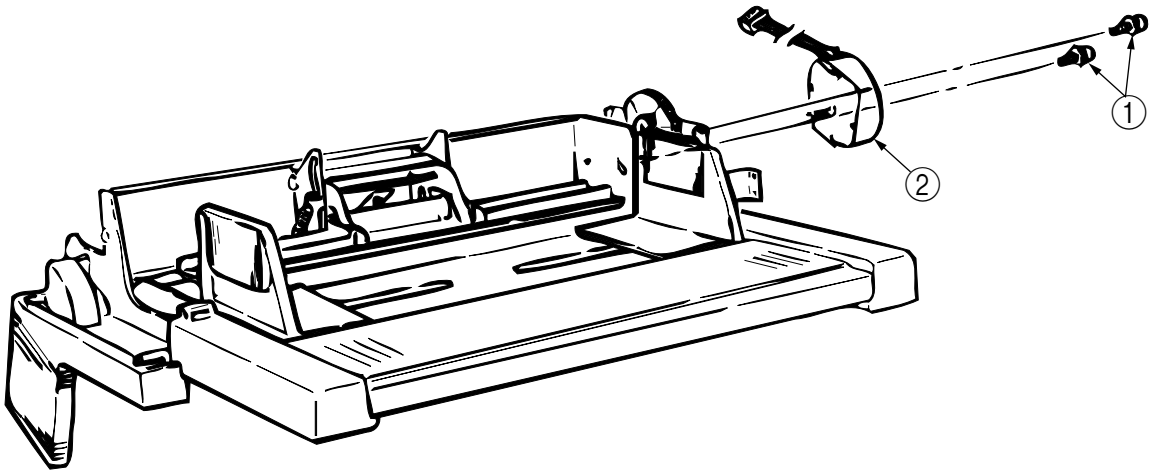
When reinstalling the printed circuit board, be careful to make sure that the sensor plate is being set correctly.





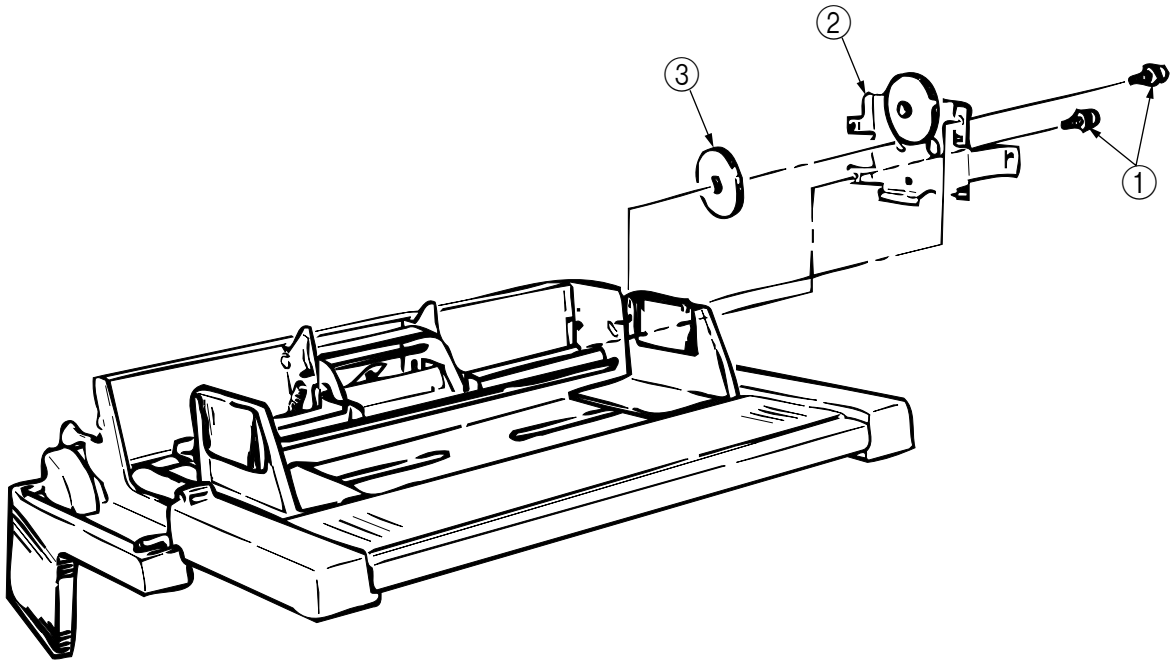
3.3.4 Pulse Motor

(1) Remove the upper frame [see 3.3.2 steps (1) through (3)].
(2) Remove the OLEV-11-PCB (see 3.3.3).
(3) Remove 2 screws ①, and remove the pulse motor ②.



3.3.5 Planet Gear

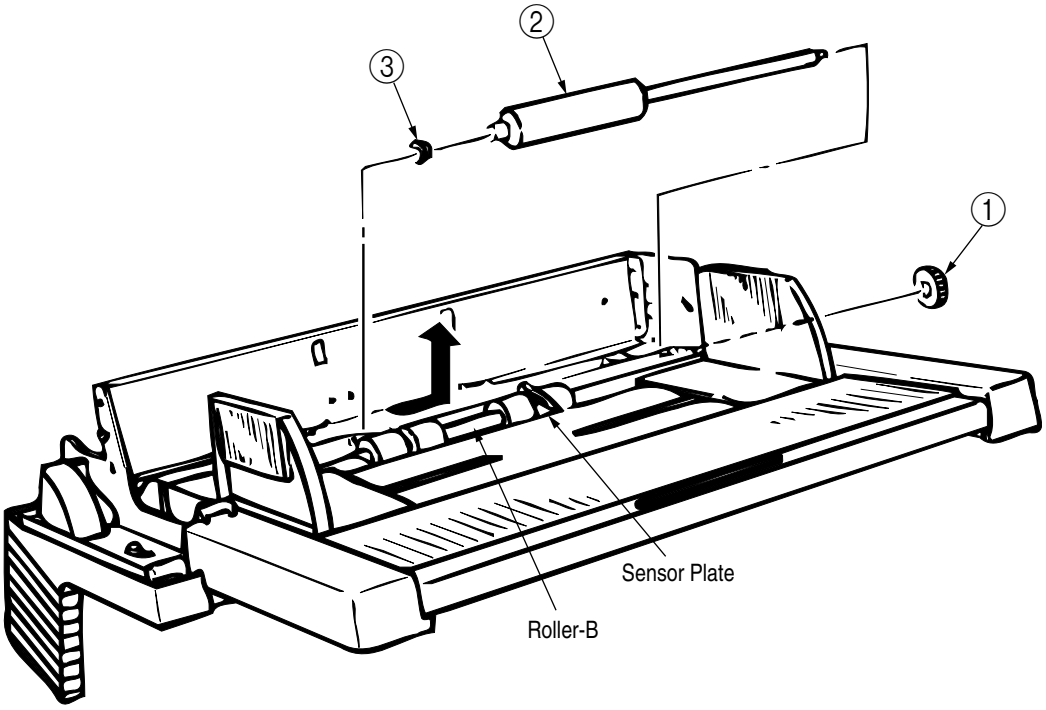
(1) Remove the upper frame [see 3.3.2 steps (1) through (3)].
(2) Remove the OLEV-11-PCB (see 3.3.3).
(3) Remove 2 screws ①, and remove the motor bracket assembly ② and planet gear ③.



3.3.6 Roller-A and B

While only the removal procedure for roller-A is described here, the removal procedure for roller-B is basically same. When removing roller-B, however, be careful not to deform the sensor plate.

(1) Remove the upper frame [see 3.3.2 steps (1) through (3)].
(2) Remove the separator assembly (see 3.3.2).
(3) Remove the OLEV-11-PCB (see 3.3.3).
(4) Remove the motor bracket (see 3.3.5).
(5) Remove the gear ①.
(6) Shift the roller-A ② to the right, lift it on its left side and slide it out (the bearing ③ also comes off while you are doing this, so be careful not to lose it).



4. TROUBLESHOOTING

4.1 Precautions Prior to the Troubleshooting

(1) Go through the basic checking items provided in the Printer Handbook.
(2) Obtain detailed information concerning the problem from the user.
(3) Go through checking in the conditions similar to that in which the problem occurred.

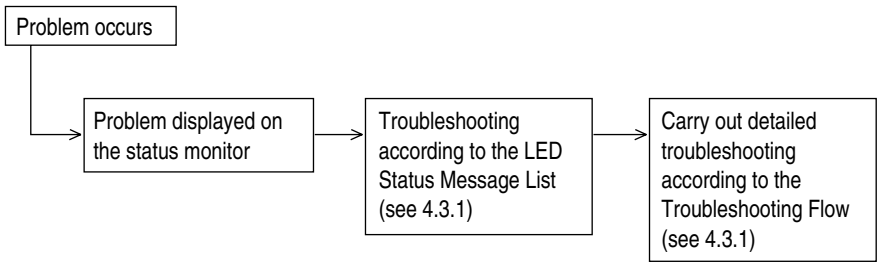
4.2 Preparations for the Troubleshooting

(1) Display on the operator panel
The status of the problem is displayed on the LED on the operator panel.

[For ODA/OEL/AOS]

4.3 Troubleshooting Method

When a problem occurs, go through the troubleshooting according to the following procedure.


Problem occurs
Problem displayed on the status monitor
Troubleshooting according to the LED Status Message List (see 4.3.1)
Carry out detailed troubleshooting according to the Troubleshooting Flow (see 4.3.1)

4.3.1 LCD Status Message List

The listing of the statuses and problems displayed in the form of messages on the LCD is provided in Table 4-1.

Table 4-1

Classification	LED Status Message	Description	Recovery method
Jam error	⚠ Blinking OFF OFF	Notifies of occurrence of jam while the paper is being fed from Multi-Purpose Feeder.	• Check the paper in the Multi-Purpose Feeder. Carry out the recovery printing by opening and closing the cover, and turn the error display off. • When the problem occurs frequently, go through the Troubleshooting.
Paper size error	⚠ Blinking OFF OFF	Notifies of incorrect size paper feeding from Multi-Purpose Feeder.	• Check the paper in the Multi-Purpose Feeder. Also check to see if there was a feeding of multiple sheets. Carry out the recovery printing by opening and closing the cover, and turn the error display off.
Tray paper out	⚠ Blinking OFF OFF	Notifies of no paper state of the Multi-Purpose Feeder.	• Load the paper in Multi-Purpose Feeder.

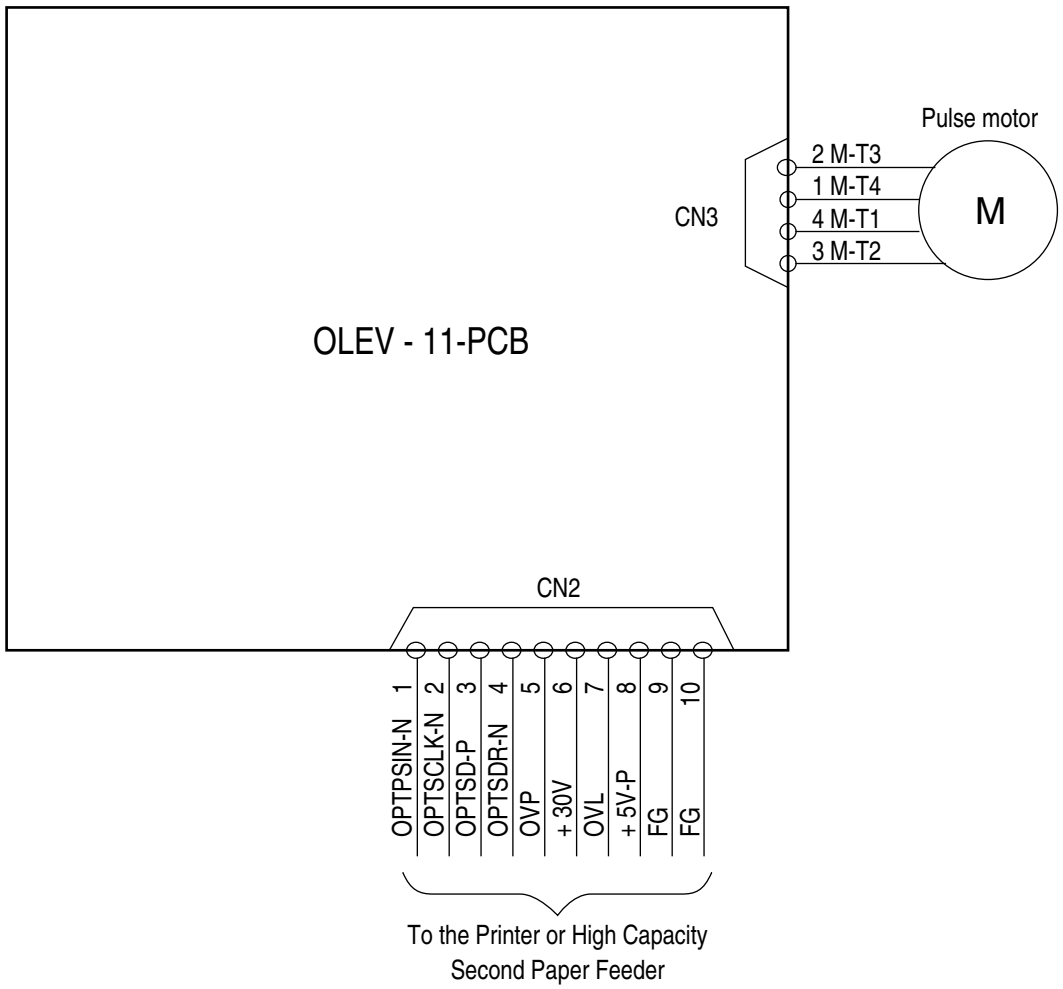
• (JAM error)

Paper Inlet Jam

- Does paper jam at the inlet when the power is turned on?
  - YES Is the paper located above the sensor plate (inlet)?
    - YES Remove the paper.
  - NO Is the sensor plate (inlet) operating normally?
    - NO Replace the sensor plate (inlet).
  - YES Replace the power supply/sensor board or inlet sensor.
- NO When the paper is fed in, does the paper inlet jam occur?
  - YES Is the paper being fed to above sensor plate (inlet)?
    - YES Is the sensor plate (inlet) operating normally?
      - NO Replace the sensor plate (inlet).
    - YES Clean the inlet sensor on the power supply/sensor board or replace the power supply/sensor board or inlet sensor.
  - NO Replace the roller-A or roller-B.
- NO Are the roller-A and roller-B rotating?
  - YES Set the paper properly.
- NO Is the pulse motor turning?
  - YES Replace the planet gear.
- NO Is the connector cable being connected properly?
  - NO Connect the connector cable properly.
- YES Check the coil resistance (approx. 32Ω) of the pulse motor.
  Is it normal?
  - NO Replace the pulse motor.
- YES Replace the OLEV-11-PCB.

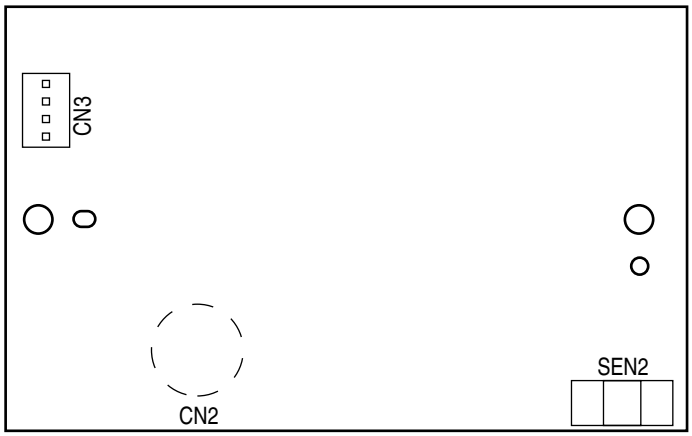
5. CONNECTION DIAGRAM

5.1 Interconnection Diagram



5.2 PCB Layout

OLEV-11-PCB



6. PARTS LIST

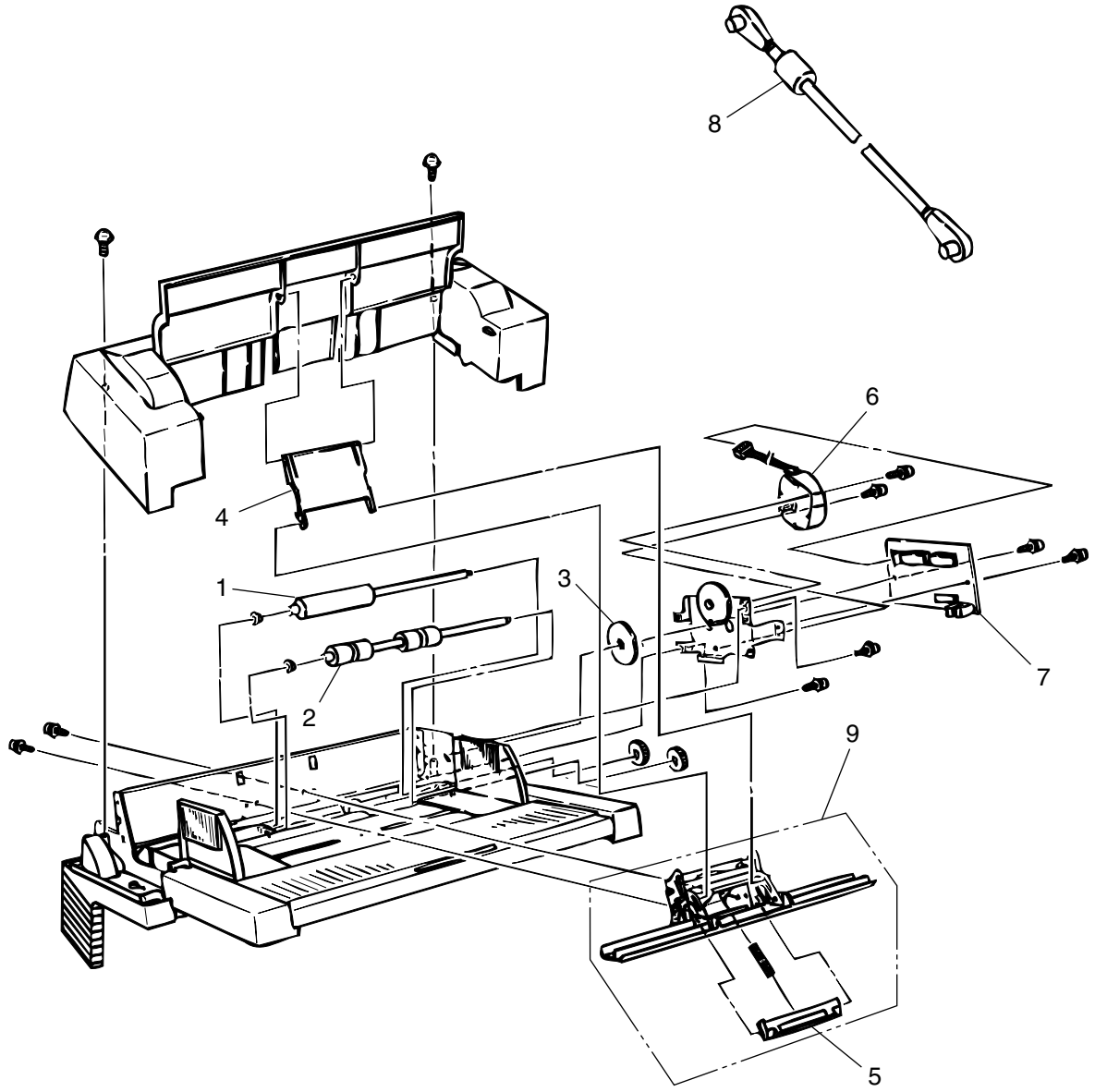


Figure 6-1 Multi-Purpose Feeder

Table 6-1 Multi-Purpose Feeder

No.	Description	OKI-J Part No.	ODA Part No.	Q'ty	Remark
1	Roller-A	3PB4083-5514P001		1	
2	Roller-B	3PB4083-5524P001		1	
3	Planet gear	4PP4083-5520P001		1	
4	Link	3PP4083-5540P001		1	
5	Separator	4PP4083-5544G001		1	
6	Pulse motor	4PB4083-6075P001		1	Same as printer unit.
7	OLEV-11-PCB	4YA4121-1014G011		1	
8	Connector cable	3YS4011-3141P003		1	ODA (exist the label)
		3YS4011-3141P001		1	OEL/INT(without the label)
9	Separator assy	3PA4083-5549G001		1	

APPENDIX E HIGH CAPACITY SECOND PAPER FEEDER

1. OUTLINE

1.1 Functions

The printer is mounted on top of this High Capacity Second Paper Feeder. The High Capacity Second Paper Feeder supplies paper automatically through the operation of pulse motor (hopping), which is driven by signals sent from the printer.
The main functions are the followings:

- Paper that can be used:

[Paper Type]
- Standard paper: Xerox 4200 (20-lb)
- Special paper: OHP sheets (for PPC), Label sheets (PPC sheets); use of envelopes or thick paper is not possible.
- Cut sheet size: A4, A5, B5, Letter, Executive, Legal13, Legal14
- Special size: Paper width: 148 to 216mm
  Paper length: 210 to 355.6mm

[Weight]
- 16-lb to 24-lb (60 to 90 g/m^2)

- Paper setting quantity: 500 sheets of paper weighing 64 g/m^2

1.2 External View and Component Names

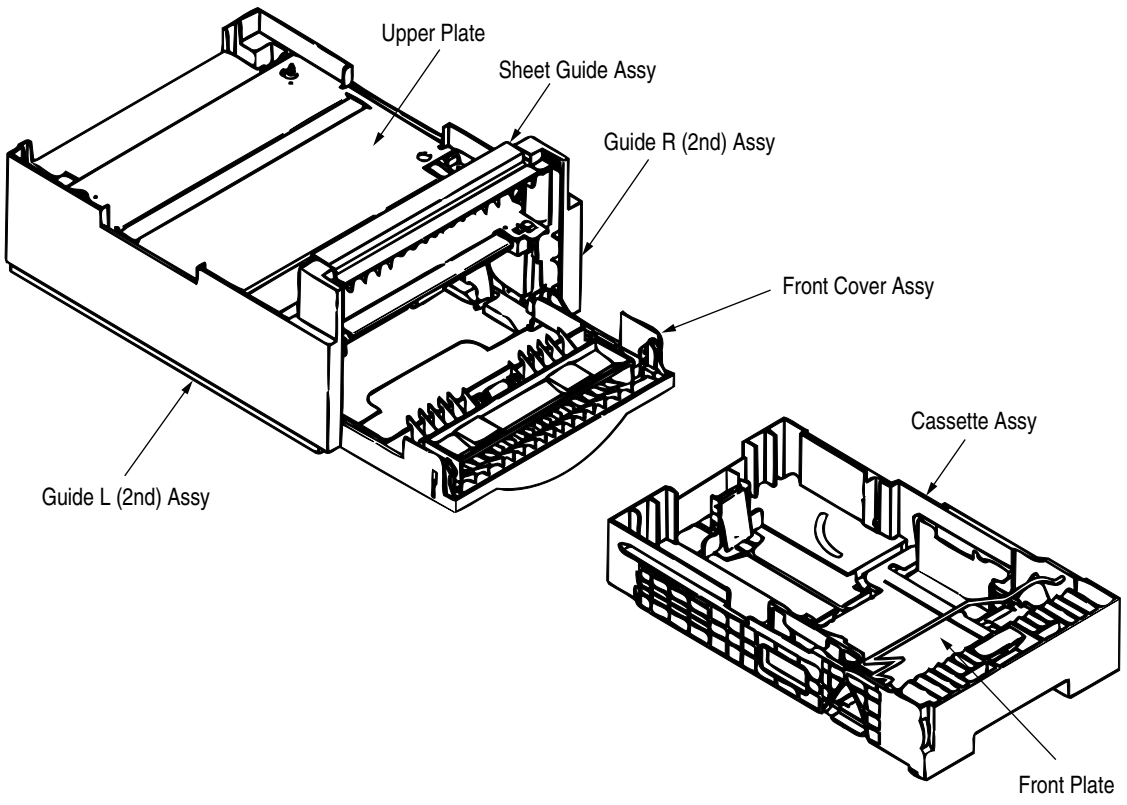


Figure 1-1 External View and Component Names

2. MECHANISM DESCRIPTION

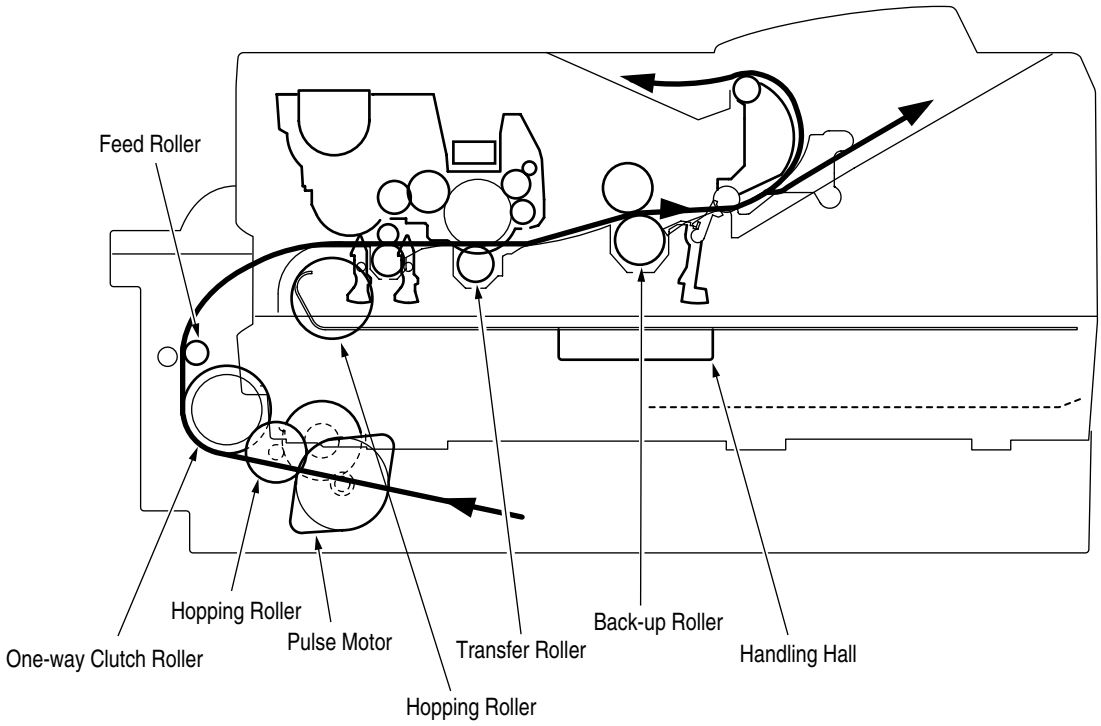
2.1 General Mechanism

The High Capacity Second Paper Feeder feeds the paper into the printer by receiving the signal from the printer, which drives the pulse motor inside the High Capacity Second Paper Feeder, and this motion is transmitted to rotate the one-way clutch of the hopping frame assembly. The paper is delivered from the hopper into the printer through the turning of the hopping roller and feed roller.

Once delivered into the printer, the paper is then controlled and fed through by pulse motor (registration) of the printer.

2.2 Hopper Mechanism

The hopper automatically feeds the printer with the paper being set, single sheet at a time. When the paper is loaded in the paper cassette, it is then transported by the pulse motor, carrying forward only a single sheet caught by the brake shoe at a time.



3. PARTS REPLACEMENT

This section covers the procedures for the disassembly, reassembly and installations in the field. This section describes the disassembly procedures, and for reassembly procedures, basically proceed with the disassembly procedures in the reverse order.

3.1 Precautions Concerning Parts Replacement

(1) Parts replacements must be carried out, by first turning the printer power switch off “O” and removing the printer from the High Capacity Second Paper Feeder.

(2) Do not disassemble the High Capacity Paper Feeder if it is operating normally.

(3) Establish the extent of disassembly suitable for the purpose of the procedure, and do not disassemble any more than necessary.

(4) Only specified service tools may be used.

(5) Disassembly must be carried out according to the prescribed procedures. Parts may be damaged if such procedures are not followed.

(6) Small parts such as screws and collars can easily be lost, therefore these parts should be temporarily fixed in the original location.

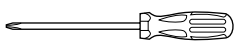
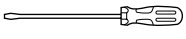
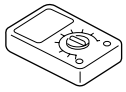
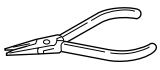
(7) When handling printed circuit boards, do not use any glove which may generate static electricity.

(8) Do not place the printed circuit boards directly on the equipment or floor.

[Service Tools]

Table 3-1 shows the tools required for the replacement of printed circuit boards, assemblies and units in the field.

Table 3-1 Service Tools

No.	Service Tools		Q’ty	Application	Remarks
1		No. 1-100 Philips screwdriver	1	2 ~ 2.5 mm screws	
2		No. 2-100 Philips screwdriver	1	3 ~ 5 mm screws	
3		No. 3-100 screwdriver	1		
4		Digital multimeter	1		
5		Pliers	1		

3.2 Parts Layout

This section describes the layout of the main components.

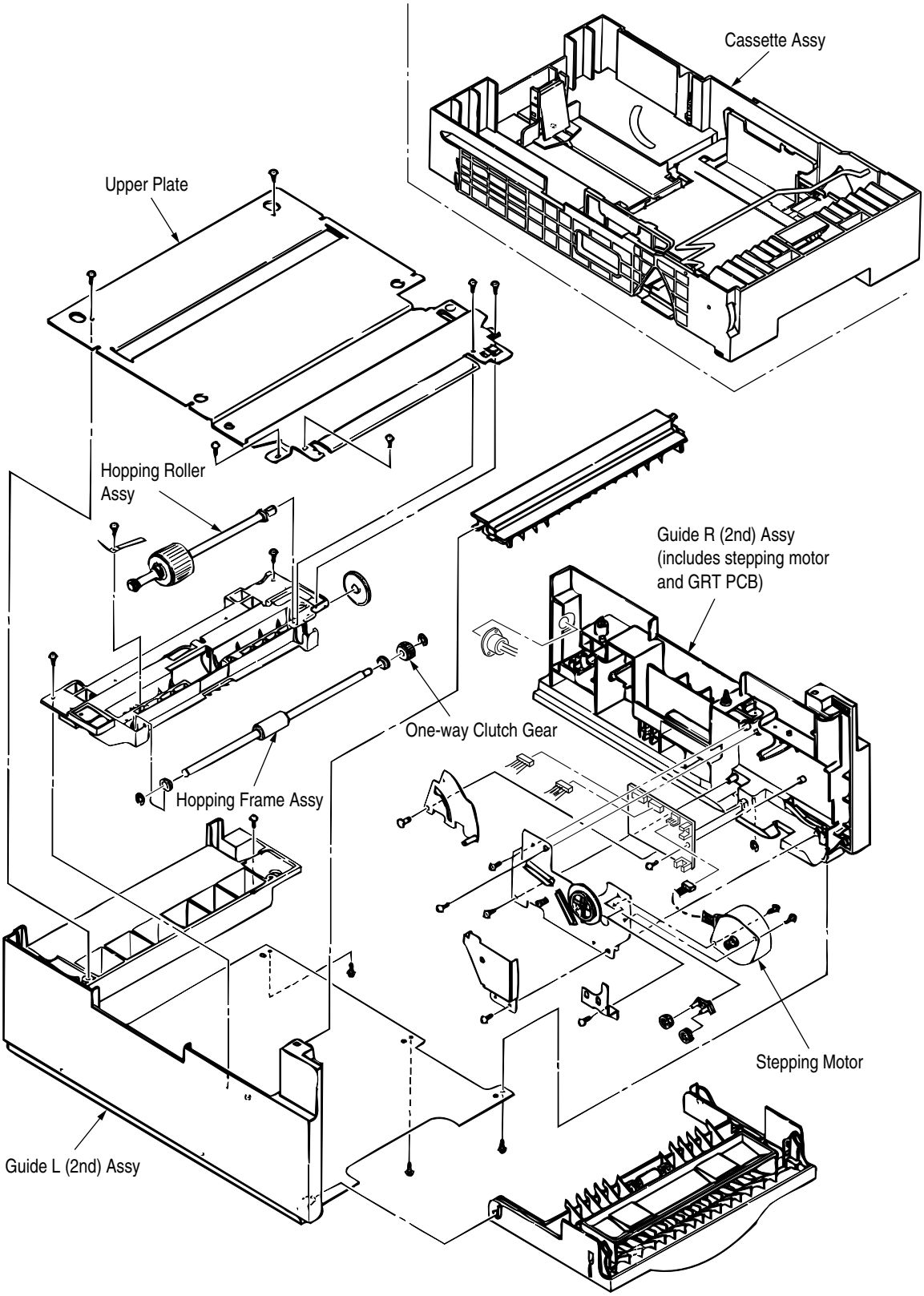
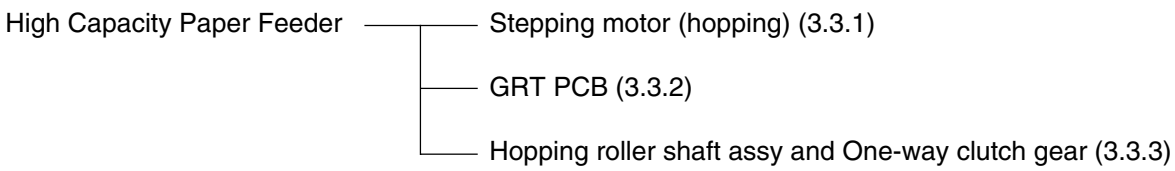


Figure 3-1

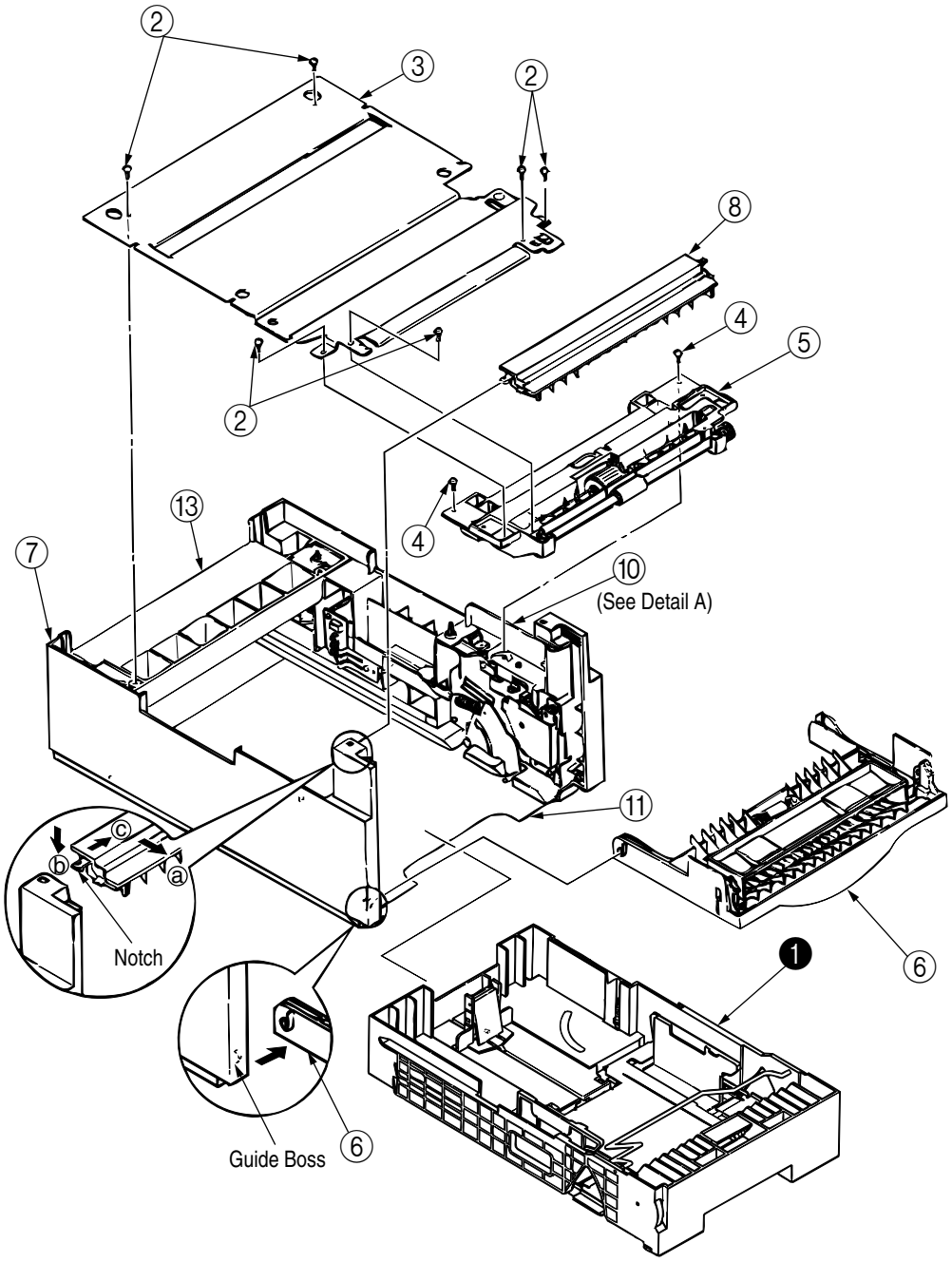
3.3 Parts Replacement Methods

This section describes the parts replacement methods for the components listed in the disassembly order diagram below.



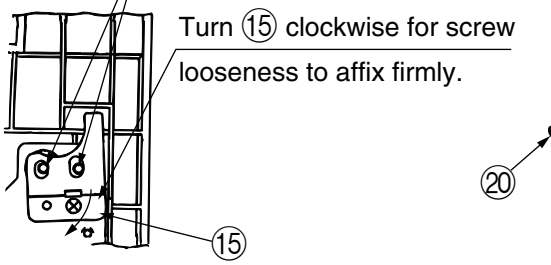
3.3.1 Stepping Motor (Hopping)

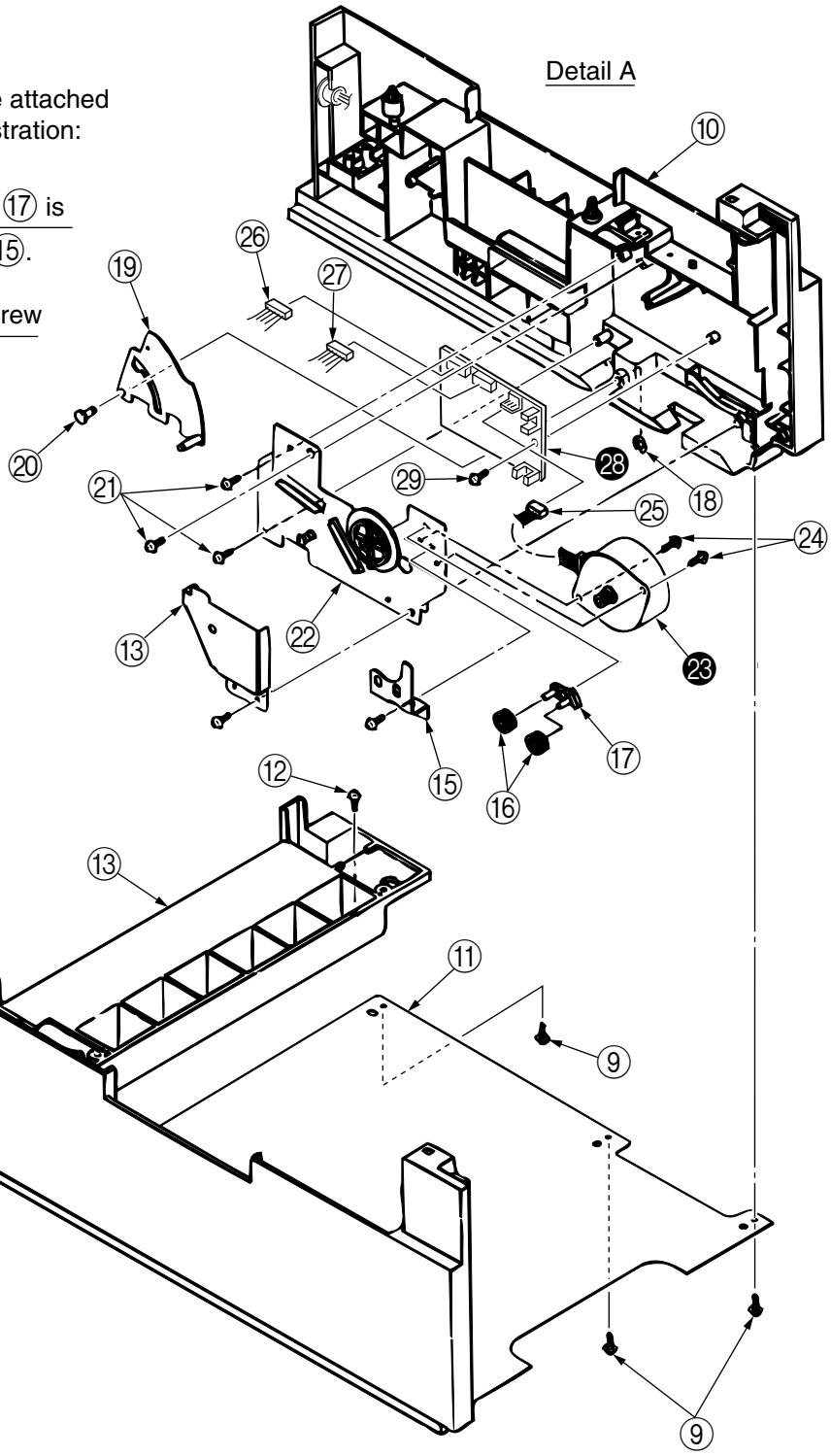
(1) Turn the printer power switch off, pull out the AC cord from the outlet. Remove the printer off High Capacity Second Paper Feeder.
(2) Take the paper cassette assy ❶ out of High Capacity Second Paper Feeder.
(3) Remove six screws ② and remove the upper plate ③. Remove two screws ④ and remove the hopping frame assy ⑤.
(4) Remove the front cover assy ⑥ off the guide boss on the guide L (2nd) assy ⑦ by bending the guide L (2nd) assy ⑦ in the direction of arrow shown in the magnified view below.
(5) Pull the sheet guide assy ⑧ in the direction of arrow ⓐ and also push in the direction of arrow ⓑ to unlock the notch, and bring the sheet guide assy ⑧ in the direction of arrow ⓒ to remove the sheet guide assy ⑧.



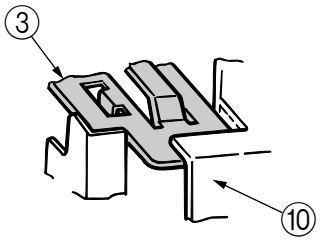
(6) Remove three screws ⑨ which are holding the guide R (2nd) assy ⑩ to the bottom plate ⑪. Remove the screw ⑫ which is keeping the rear cover ⑬ and guide R (2nd) assy ⑩. Remove the guide R (2nd) assy ⑩.
(7) Remove the protect (M) ⑭, guide bracket ⑮, planet gears ⑯ and planet gear bracket ⑰.
(8) Remove the E-ring ⑱ which is keeping the sheet link ⑲ on the guide R (2nd) assy ⑩, and pull out the hinge stand ⑳.
(9) Remove three remaining screws ㉑ which are keeping the motor on the motor bracket ㉒, and remove the connector off the Stepping Motor ㉓.
(10) Remove two screws ㉔ on the Stepping Motor ㉓.

Note : The guide bracket ⑮ must be attached as shown in the following illustration:





The upper plate ③ must be attached as shown in the following illustration.



3.3.2 TQSB-2 PCB

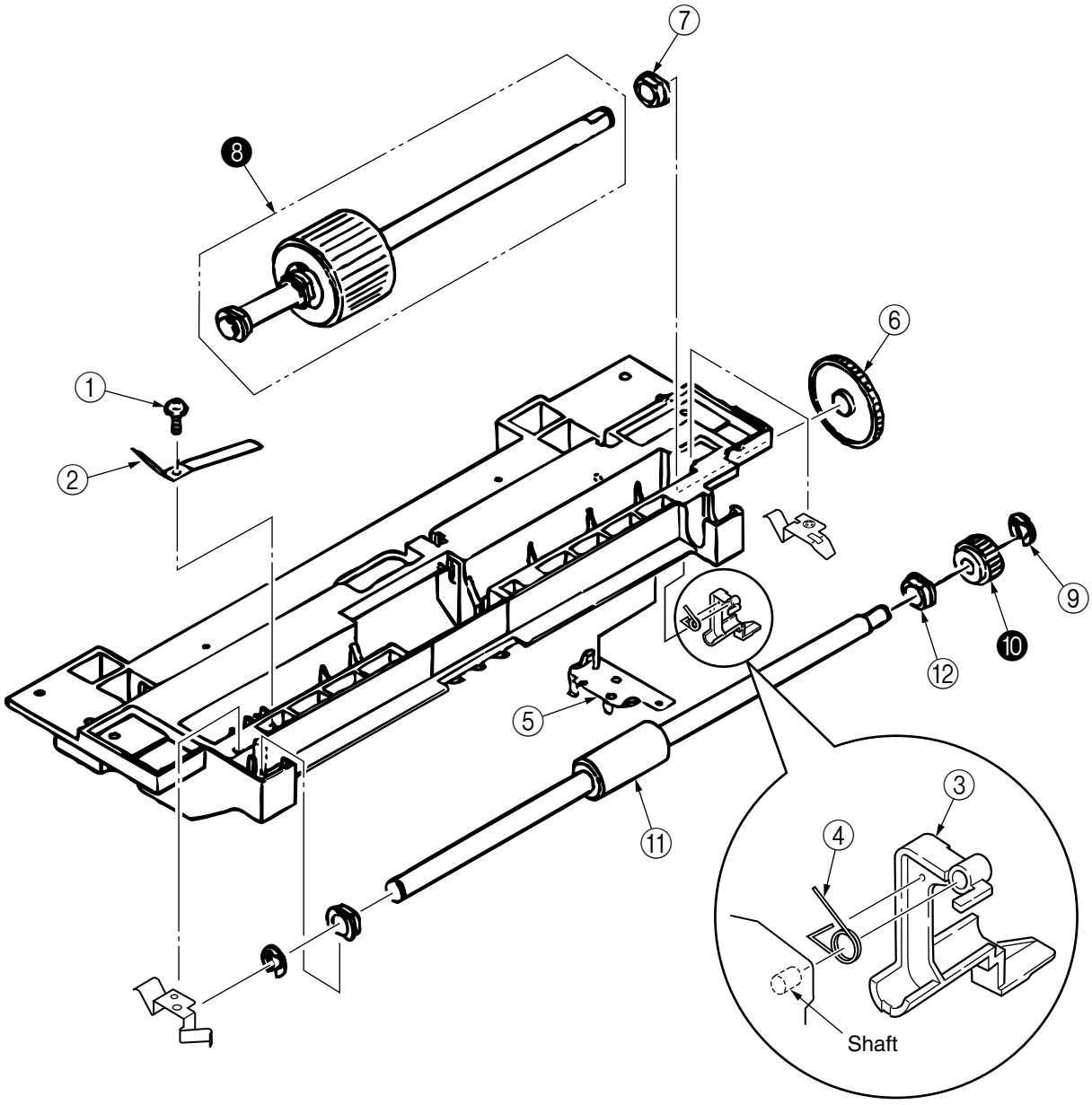
(1) Remove the pulse motor (see 3.3.1).
(2) Remove the connectors ㉖, ㉗ from the GRT PCB ㉘.
(3) Remove the screw ㉙ and remove the GRT PCB ㉘.

Note : Refer to Detall A in the previous page.

3.3.3 Hopping Roller Shaft Assy and One-way Clutch Gear

(1) Follow up to step (3) of 3.3.1 and remove the hopping frame assy.
(2) Remove the screw ① and remove the earth plate ②. Remove the sensor lever (T) ③ and remove the transion spring ④ and remove the ground plate ⑤. Remove the gear ⑥ and remove the metal bush ⑦ and hopping roller shaft assy ❽.
(3) Remove the E-ring ⑨ and remove the one-way clutch gear ❿ on the right side of the feed roller ⑪.

Note : The metal bush ⑫ also comes off. Be careful not to lose it.



The tension lever and the sensor lever need concurrent replacing.

4. TROUBLESHOOTING

4.1 Precautions Prior to the Troubleshooting

(1) Go through the basic checking items provided in the Printer Handbook.
(2) Obtain detailed information concerning the problem from the user.
(3) Go through checking in the conditions similar to that in which the problem occurred.

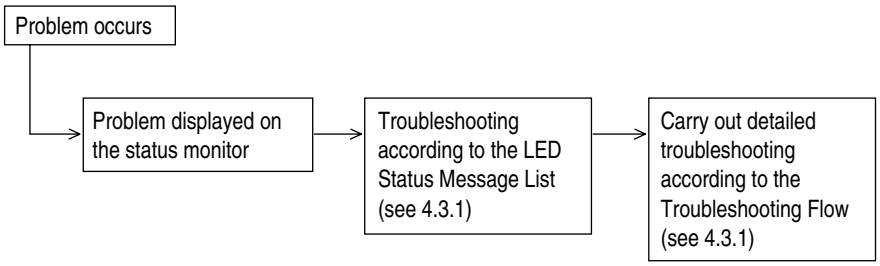
4.2 Preparations for the Troubleshooting

(1) Display on the Operator panel
The status of the problem is displayed on the LED on the Operator panel.

[For ODA/OEL/AOS]

4.3 Troubleshooting Method

When a problem occurs, go through the troubleshooting according to the following procedure.


Problem occurs
Problem displayed on the status monitor
Troubleshooting according to the LED Status Message List (see 4.3.1)
Carry out detailed troubleshooting according to the Troubleshooting Flow (see 4.3.1)

4.3.1 LED Status Message List

The listing of the statuses and problems displayed in the form of messages on the status monitor is provided in Table 4-1.

Table 4-1

Classification	LED Status Message	Description	Recovery method
Jam error (feeding)	⚠ Blinking OFF OFF	Notifies of occurrence of jam while the paper is being fed from High Capacity Second Paper Feeder.	• Check the paper in the High Capacity Second Paper Feeder. Carry out the recovery printing by opening and closing the cover, and turn the error display off. • When the problem occurs frequently, go through the Troubleshooting.
Jam error (ejection)	⚠ Blinking OFF OFF	Notifies of occurrence of jam while the paper is being ejected from the printer.	• Check the paper in the printer. Carry out the recovery printing by opening and closing the cover, and turn the error display off.
Paper size error	⚠ Blinking OFF OFF	Notifies of incorrect size paper feeding from High Capacity Second Paper Feeder.	• Check the paper in the High Capacity Second Paper Feeder. Also check to see if there was a feeding of multiple sheets. Carry out the recovery printing by opening and closing the cover, and turn the error display off.
Tray paper out	⚠ Blinking OFF OFF	Notifies of no paper state of the High Capacity Second Paper feeder.	• Load the paper in High Capacity Second Paper Feeder.
Paper size request	⚠ Blinking OFF OFF	Notifies of correct paper size for the High capacity Second Paper Feeder.	• Load the requested size paper in the High Capacity Second Paper Feeder.

• (JAM error)

Paper Inlet Jam

• Does paper jam at the inlet when the power is turned on?

- YES Is the paper located above the sensor plate (inlet)?
  - • YES Remove the paper.
- NO Is the sensor plate (inlet) operating normally?
  - • NO Replace the sensor plate (inlet).
- YES Replace the power supply/sensor board or inlet sensor.

NO When the paper is fed in, does the paper inlet jam occur?

- • YES Is the paper being fed to above sensor plate (inlet)?
  - • YES Is the sensor plate (inlet) operating normally?
    - • NO Replace the sensor plate. (inlet)
  - YES Clean the inlet sensor on the power supply/sensor board or replace the power supply/sensor board or inlet sensor.
- NO Replace the hopping roller shaft assy or paper cassette.

NO Are the hopping roller and feed roller rotating?

- • YES Set the paper properly.

NO Is the pulse motor turning?

- • YES Replace the hopping roller shaft assy or one-way clutch gear on the feed roller assy.

NO Is the connector being connected properly?

- • NO Connect the connector properly.

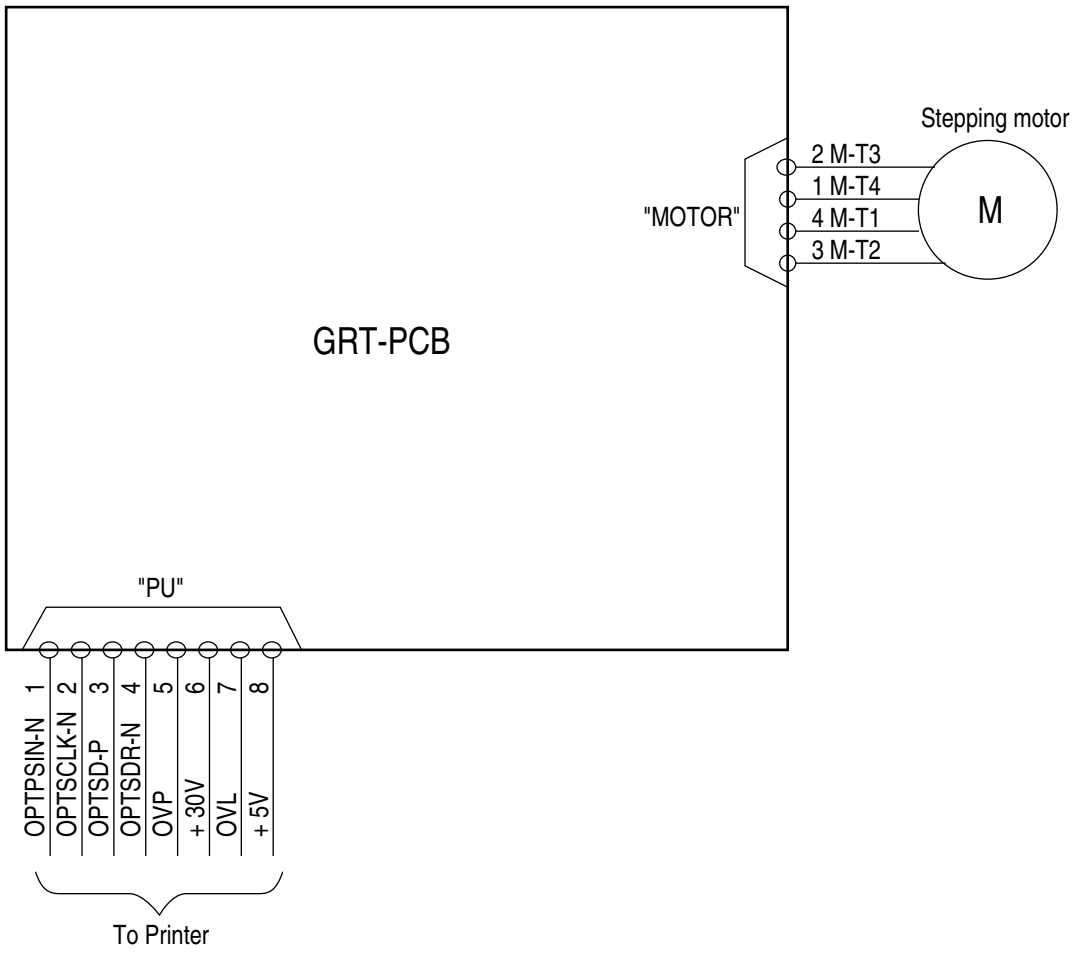
YES Check the coil resistance (approx. 4.3Ω) of the pulse motor.
Is it normal?

- • NO Replace the stepping motor.

YES Replace the GRT PCB.

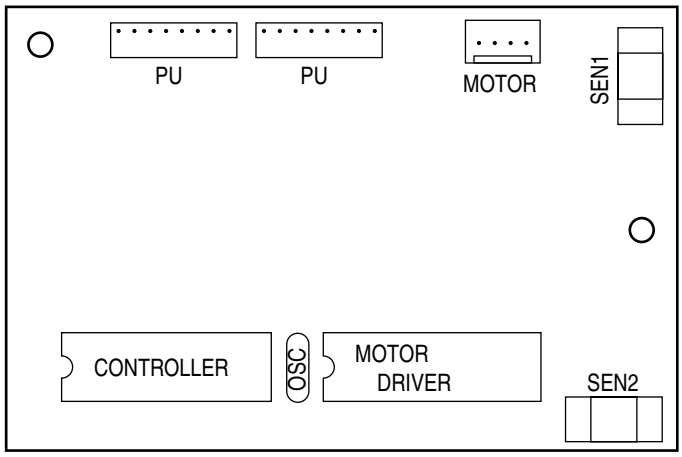
5. CONNECTION DIAGRAM

5.1 Interconnection Diagram



5.2 PCB Layout

GRT PCB



6. PARTS LIST

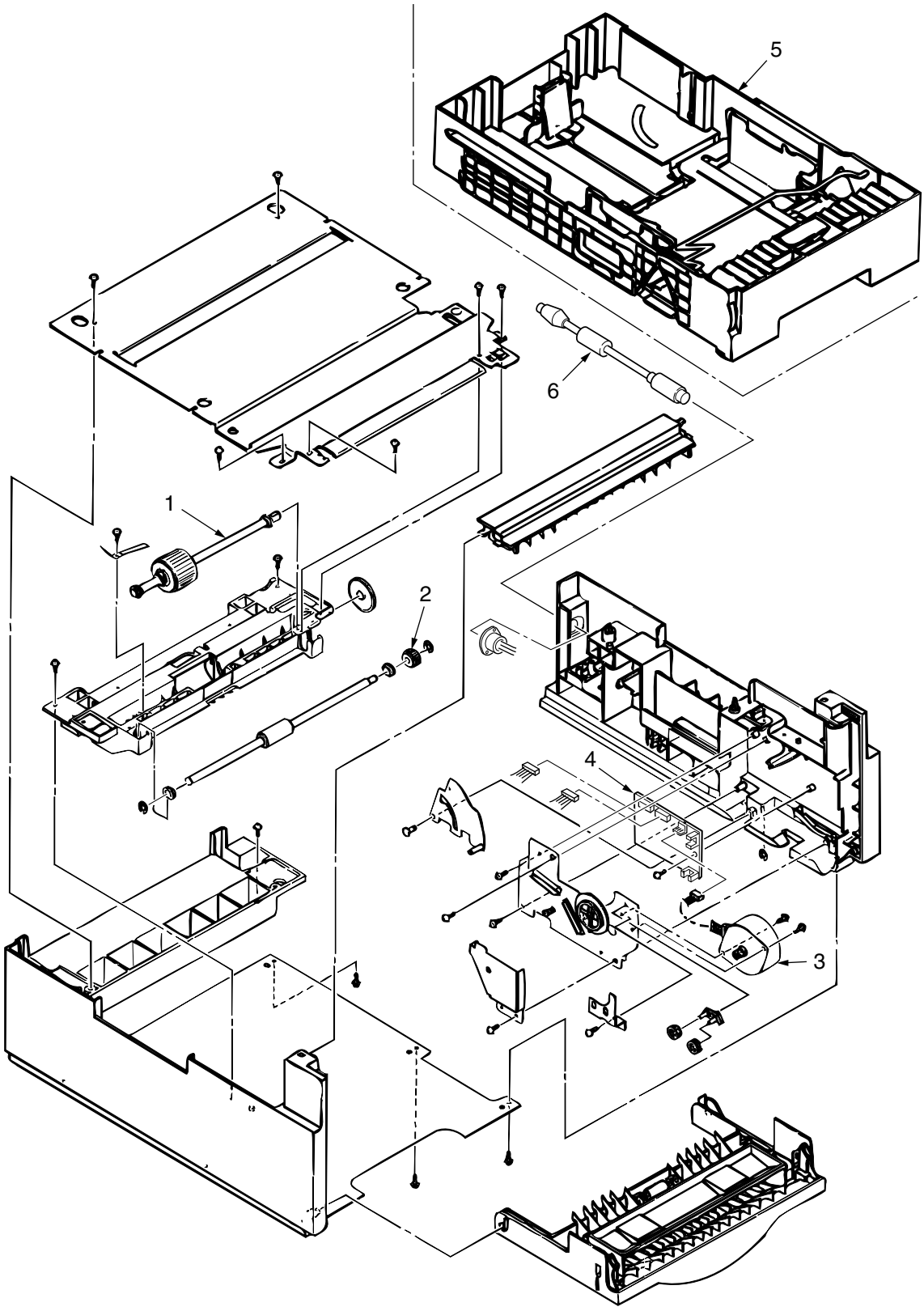


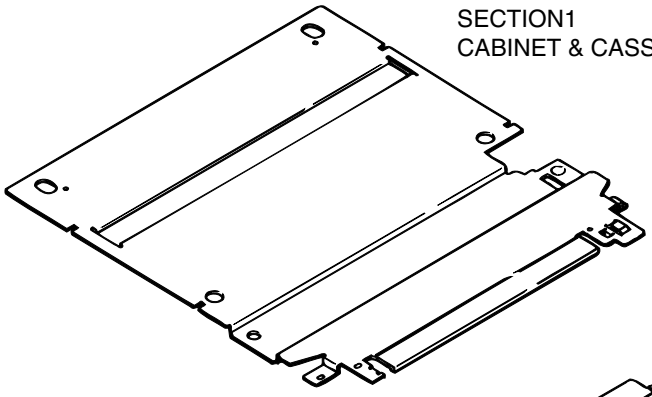
Figure 6-1 High Capacity Second Paper Feeder

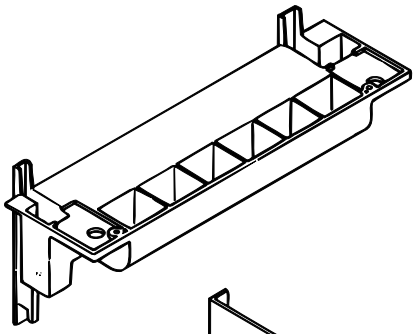
Table 6-1 High Capacity Paper Feeder

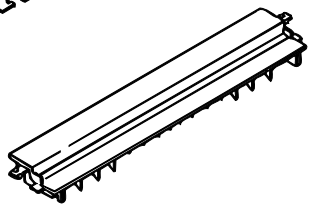
No.	Description	OKI-J Part No.	Q'ty	Remark
1	Hopping roller shaft assy	3PA4122-1367G001	1	
2	One-way clutch gear	4PB4122-1382P001	1	
3	Stepping motor	3PB4122-1399P001	1	
4	Board-GRT	42372702	1	
5	Cassette assy (2nd tray)	40056004	1	
6	DIN8P-DIN8P Connection Cord	42372601	1	

2nd Tray ASSEMBLY

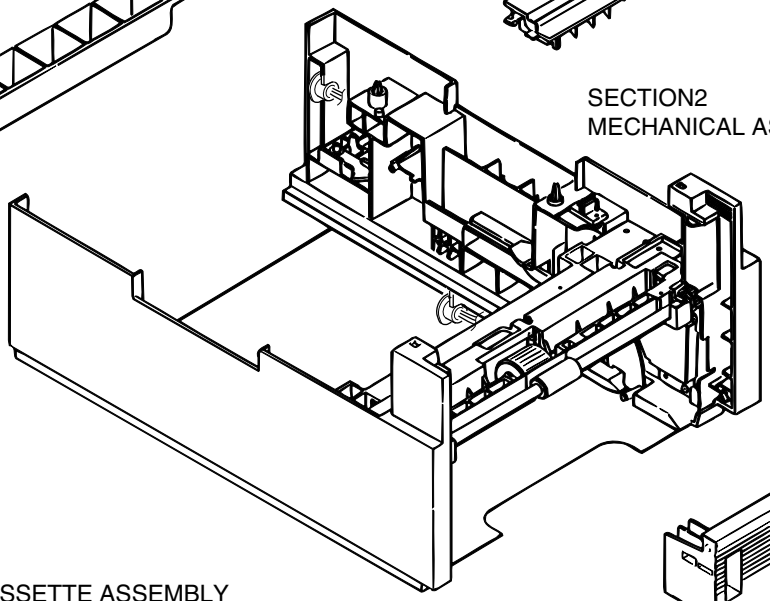
SECTION1
CABINET & CASSETTE ASSEMBLY

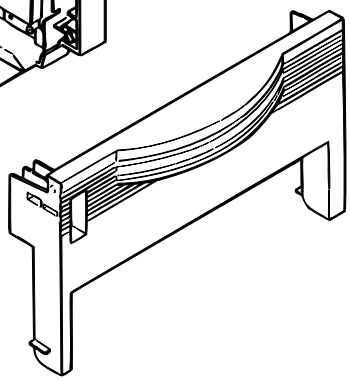




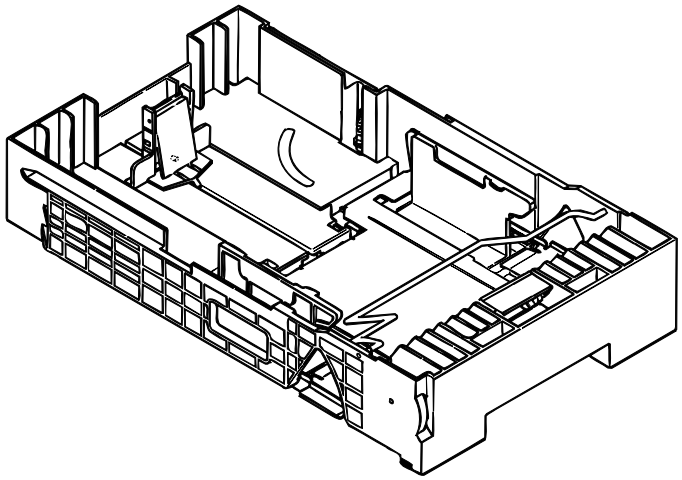


SECTION2
MECHANICAL ASSEMBLY

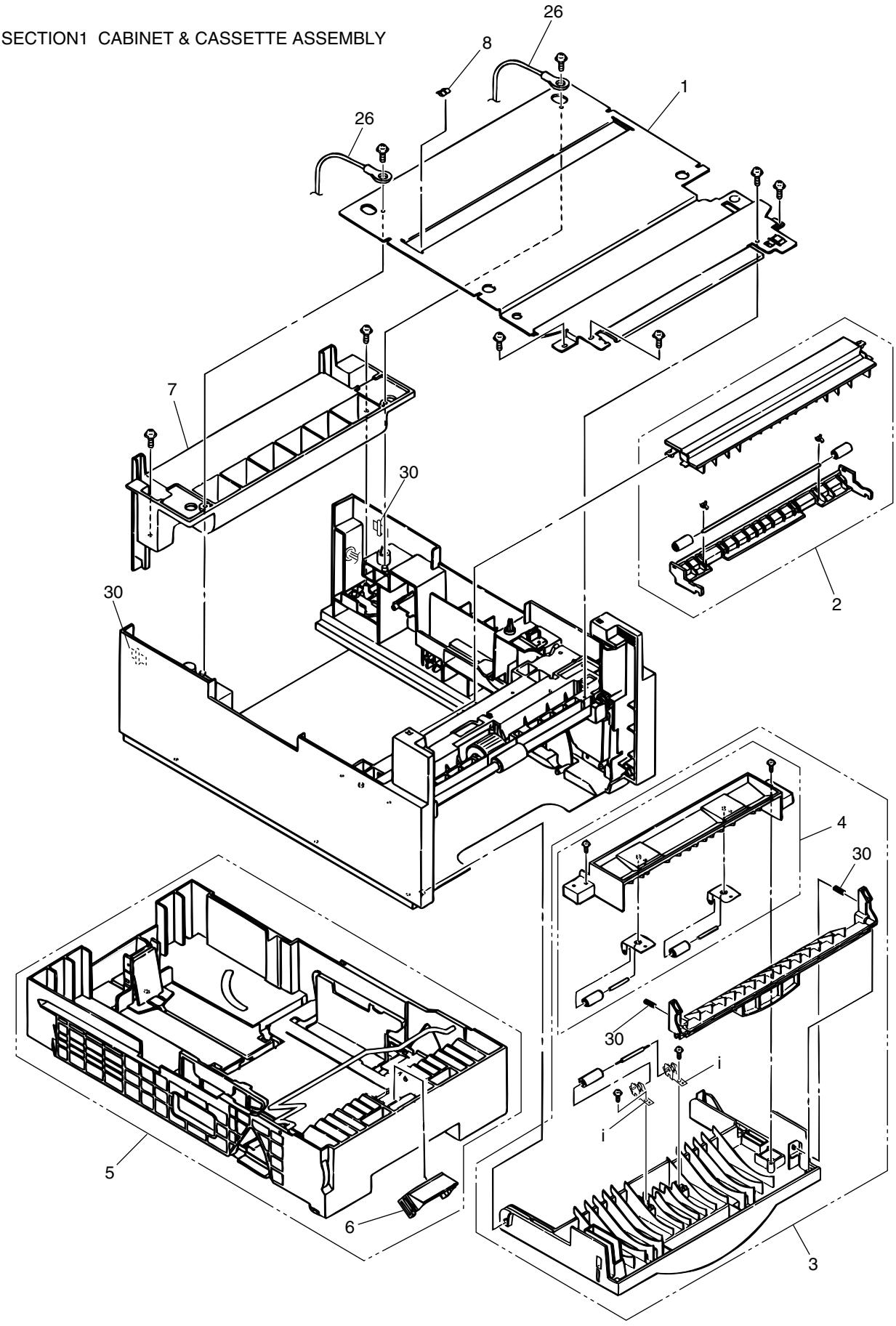




SECTION1
CABINET & CASSETTE ASSEMBLY



SECTION1 CABINET & CASSETTE ASSEMBLY



SECTION2 MECHANICAL ASSEMBLY

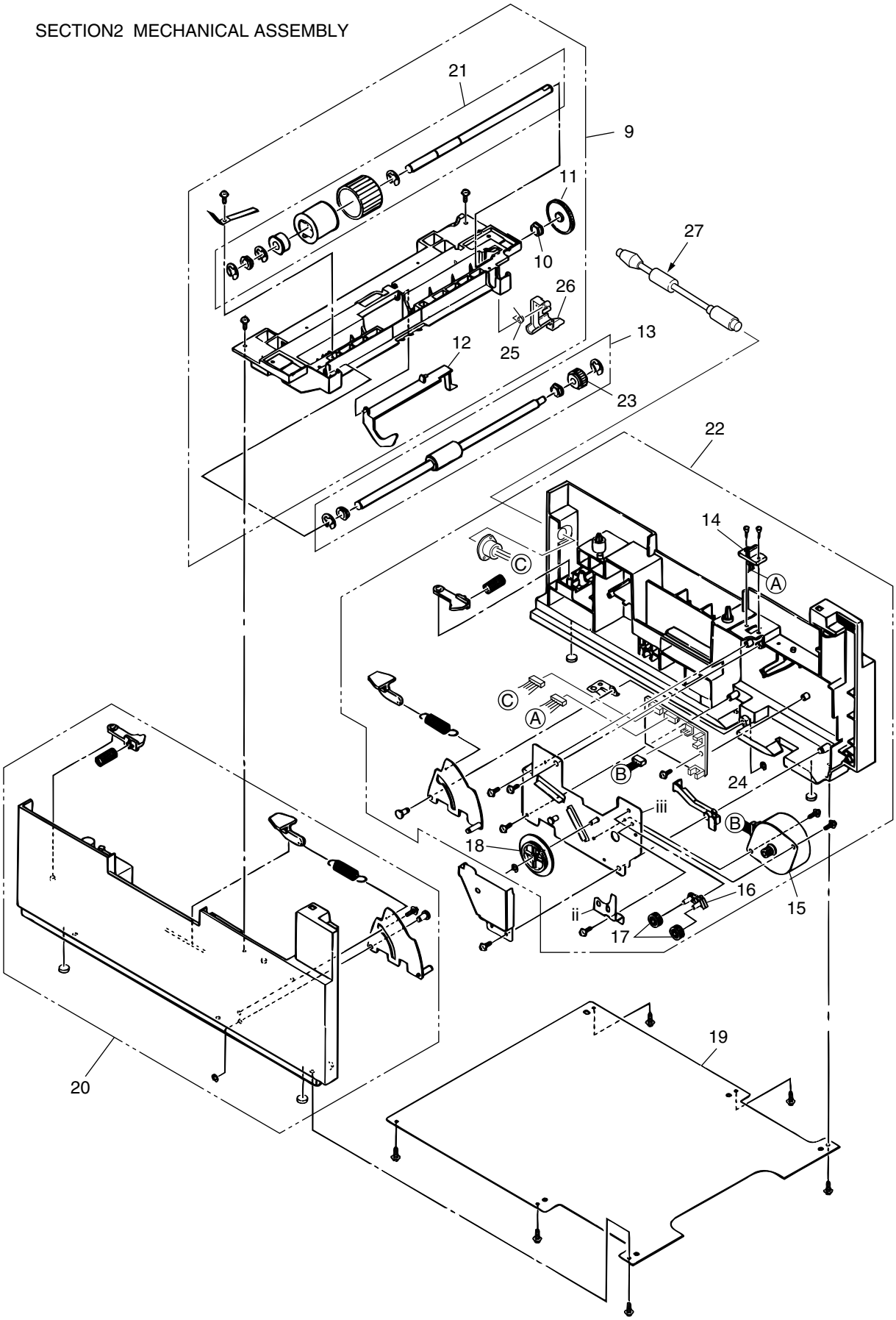


Table 6-2 2nd Tray Parts List

No.	Description	OKI Parts No.	Q'ty/U	500	1000	2000	Remarks
1	Plate, upper	1PP4122-1401P001	1	3	6	12	
2	Sheet guide assembly	3PA4122-1370G001	1	3	6	12	
3	Front cover assembly	42511702	1	3	6	12	
4	Inner guide assembly	3PA4122-1371G001	1	3	6	12	
5	Cassette assembly (2nd tray)	40056004	1	3	6	12	
6	Separation frame assembly	4PA4120-1009G001	1	6	12	24	
7	Cover, rear	42511602	1	3	6	12	
8	Stick finger	4PB4122-1441P001	1	3	6	12	
9	Hopping flame assembly	1PA4122-1366G001	1	3	6	12	
10	Bush, metal (ADF)	4PP3522-3568P001	1	3	6	12	
11	Gear (z70)	4PP4122-1207P001	1	3	6	12	
12	Lever, sensor (p)	3PP4122-1331P001	1	3	6	12	
13	Feed roller assembly	3PA4122-1393G001	1	3	6	12	
14	Cable & connector	3YS4111-3528P001	1	3	6	12	
15	Stepping motor	3PB4122-1399P001	1	3	6	12	
16	Bracket	4PP4122-1384G001	1	3	6	12	
17	Gear (z24)	4PP4122-1383P001	2	6	12	24	
18	Gear (z87/z60)	4PP4122-1226P001	1	3	6	12	
19	Plate, bottom	2PP4122-1389P001	1	3	6	12	
20	2nd cassette guide (L) assy	42511402	1	3	6	12	
21	Hopping roller assembly	3PA4122-1367G001	1	3	6	12	
22	2nd cassette guide (R) assy	42337802	1	3	6	12	
23	One-way clutch gear	4PB4122-1382P001	1	6	12	24	
24	Board-GRT	42372702	1	3	6	12	
25	Spring, Tension	41804801	1	3	6	12	
26	Lever, sensor (T)	PP4122-1416P001	1	3	6	12	
27	DIN8P-DIN8P Connection Cord	42372601	1	10	10	20	
28	Connection Cord	40890502	2	3	20	40	
29	Spring-Release	43088901	2	6	12	24	ECO-B4250-017
30	Cord Clamp	LP-6651	2	6	12	24	

APPENDIX F NETWORK INTERFACE (OPTION)

1) Connector

- 8-pin modular jack

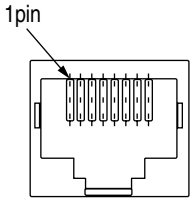
2) Cable

- 10BASE/T

3) Signal

Contact No.	Plug	Jack	Polarity
1	Power feeder3	–	+
2	Power feeder3	–	–
3	Send	Receive	+
4	Receive	Send	+
5	Receive	Send	–
6	Send	Receive	–
7	Power feeder2	Power feeder2	–
8	Power feeder2	Power feeder2	+

4) Appearance



5) Physical dimensions

a) Transmission method by CSMA/CD
b) Transmission protocol

Packet type	Support	Remarks
Ethernet II	○	
IEEE802.3	○	
IEEE802.3+IEEE802.2	○	
IEEE802.3+IEEE802.2+SNAP	○	

6) List of protocols

Protocol	Print	Configuration	Etc.
TCP/IP	LPR IPP FTP SMTP/POP3 HTTP(Except IPP)	HTTP Telnet FTP NetBEUI SNMP DHCP/BOOTP RARP AutoIP DNS UPnP SLP	TCP, IP, ICMP, ARP UDP
NetBEUI	SMB, CIFS	WINS	NetBIOS
NetWare	Q-Server over IPX Q-Server over IP R-Printer N-Printer	NCP SNMP	SPX, IPX, SAP, RIP
EtherTalk	PAP	NBP	ELAP, AARP, DDP, AEP, ZIP, RTMP, ATP

7) TCP/IP

a) Support OS
SunOS 4.1.1, SunOS 4.1.2, SunOS 4.1.3
Solaris 2.1, Solaris 2.2, Solaris2.4, Solaris2.5
HP-UX 9.X
Windows3.0+TCP/IP
Windows3.1+TCP/IP
Windows3.11+TCP/IP
Windows95/98
WindowsNT 3.5+TCP/IP
WindowsNT 3.5.1
WindowsNT 4.0
Windows2000
WindowsXP

b) LPR

The LPR is an application to process the print data.
The LPR of this system supports multiple clients. Furthermore, it provides multiple connections for one client.

Item	Factory default	Setup range	Description
Number of clients connected	1 to 8 clients	1 to 8 clients	indicates the number of clients which can be connected simultaneously. Allows simultaneous connection of a maximum of four clients.

First command character	LPR option	Objective	Support
H	Specify by default.	Host name of the machine to which the LPR is called. Host name printed on the banner sheet	○
P	Specify by default.	Log-in name of the user having called the LPR. User name printed on the banner sheet	○
J	Specify by -J option.	Job name printed on the banner sheet Default: File name	○
C	Specify by -C option.	Job type printed on the banner sheet Default: System name	○
L	Specify by default. Cancel the specification by -h option.	Specify literal banner sheet printing.	○
f	Specify the number of volumes by -# option.	Name of the data file to be printed. The number of character strings of this command varies according to the number of volumes. (Not supported)	○
U	Specify by default.	Name of the file to be deleted with completion of printing	—
I	Specify by -i option.	Number of indent characters in the output line	—
W	Specify by -w option.	Specify page width.	—
M	Specify by -m option.	Specify sending of a mail with completion of printing	—
S	Specify by -s option.	Specify the symbolic link to the data file.	○
1/2/3/4	Specify by -1/-2/-3/-4 options.	Specify the font.	—

c) FTP

FTP is an application to process the print data.
The FTP of this system supports multiple of clients. Furthermore, it provides multiple connections for one client.

Item	Factory default	Setup range	Description
Number of clients connected		1 to 8 clients	Indicates the number of clients which can be connected simultaneously. Allows simultaneous connection of a maximum of four clients.

d) Telnet

Telnet is an application to reference and change the menu of the Network/Printer.
The TELNET of this system supports simultaneous connection of multiple clients for the personal user. Furthermore, it provides multiple connections for one client. But it cannot provide two or more simultanepus connections for super users.

Item	Factory default	Setup range	Description
Number of connected clients		1 client	Indicates the number of clients which can be connected simultaneously. Allows simultaneous connection of a maximum of four clients.
Terminal mode	VT-100	VT-100	Indicates the control mode of the terminal of the connected client. Only the VT-100 alone is the support terminal mode.
Number of columns	80 columns	80 columns	Indicates the number of the digits of the terminal of the connected client. The number of the support digits is fixed at 80.
Number of rows	25 rows	25 rows	Indicates the number of the digits of the terminal of the connected client. The number of the support digits is fixed at 25.
Expiration of idle time	300 sec.	60 to 7200 sec.	Indicates the time when the idle time of the connected clients expires.

e) HTTP

The HTTP is an application to reference and change the menu of the Network/Printer.
The HTTP of this system supports simultaneous connection of multiple clients for the personal user. Furthermore, it provides multiple connections for one client.

Item	Factory default	Setup range	Description
HTTP Version	1.0	1.0	Indicates the version of the HTTP being implemented.

f) SNMP

SNMP is an application to reference and change the menu of the Network/Printer.
The SNMP of this system supports simultaneous connection of multiple clients for the personal user. Furthermore, it provides multiple connections for one client.

8) Netware

a) Support OS
Netware File Server 2.2C, 3.X,4.X,5 (Bindery Model/ NDS support)

b) R-printer
The R-printer is an application to process the print data.
The R-printer of this system supports multiple print serves. Furthermore, it provides one connection for one printer server; it does not allow multiple connections for one printer server.

Item	Shipment from factory	Setup range	Description
Number of connected print serves		1 to 8 servers	"Indicates the number of print servers which can be connected simultaneously. Each print server need not be started in advance. Even when the printer is ready for operation, connection is achieved only by starting the print server."
Print Server Name	OIxxxxxx Etherxxxxxx	Maximum four servers *Maximum 31 characters	Indicates the name of the connected print server. Each print server name can be registered up to a maximum of 31 characters. The default xxxxxx of the print server name is set to the lower three bytes of the MAC address of the print server. Overseas: OIxxxxxx OEM: Etherxxxxxx The print server name must be preset on a NetWare server using a Novell tool.
Printer Name	(Print Server Name)-prn1		Takes the form of the above server name followed by -prn1, by default.
Job Time out	10	4-255 seconds	A timeout value that functions only when a specific size job is received.

c) Q-Server

The Q-Server is an application to process the print data.

The Q-Server of this system supports multiple file serves. Furthermore, it allows connection of multiple print servers for one file server.

Item	Shipment from factory	Setup range	Description
Number of connected print serves		1 to 8 servers	Indicates the number of print servers which can be connected simultaneously. Each print server need not be started in advance. Even when the printer is ready for operation, connection is achieved only by starting the print server.
Print Server Name	OIxxxxxx Etherxxxxxx	Maximum four servers *Maximum 31 characters	Indicates the name of the connected print server. Each print server name can be registered up to a maximum of 31 characters. The default xxxxxx of the print server name is set to the lower three bytes of the MAC address of the print server. Overseas: OIxxxxxx OEM: Etherxxxxxx The print server name must be preset on a NetWare server using a Novell tool.
Printer Name	(Print Server Name)-prn1		Takes the form of the above server name followed by -prn1, by default.
File Server Name	NULL	Maximum four servers *Maximum 47 characters	Entered with the name of a connecting file server. The file server is that whose settings have been set using a Novell tool. The entry of this file server name is optional. When the field is left blank, SoftNIC can automatically discover and connect a file server to connect to.
Password for File servers	NULL	Maximum 31 characters	Entered with a password for the connection to a file server. The password must be preset on a NetWare server using a Novell tool. When this field, which is optional, is left blank, no password is used for connection to a file server. In such cases, the password for the file server must not be set on the file server.
Job Polling Rate	4	2-255 seconds	Specified with a time interval for checking whether a job occurs. When this field, which is optional, is left blank, the default four seconds takes effect.

9) EtherTalk

a) Support OS
System7.0, 7.1, 7.1.X
System7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.5
MAC OS7.6, 8.X, 9

b) PAP
The PAP is an application to process the print data.

Item	Factory default	Setup range	Description
Number of connected clients	1 client	1 client	Indicates the number of clients which can be connected simultaneously. Simultaneous connection is possible up to one client.
Printer name	B4300	One item by max. 32 characters	Indicates the printer name which can be set on the printer.
Zone name		One item by max. 32 characters	Indicates the zone to which the printer belongs.

10) NetBEUI

a) Support OS
Windows95/98
WindowsNT4.0
Windows2000

b) NetBIOS

Item	Factory default	Setup range	Description
Host name	OLxxxxxx MLxxxxxx	1 to 15 characters	Indicates the NetBIOS Host name. OL: Overseas machines ML: Japan Domestic machines xxxxxx is the last six digits of the MAC address.
Work Group name	Print Server	1 to 15 characters	Indicates the NetBIOS Work Group name.

11) OKI Original Port

The OKI Original Port provides special processing which is beyond the scope of normal menu operation.

Item	Description
Initial recognition	Executes the processing of finding out the printer by the setup utility when the printer is connected to the network.
Flash Down Load	Provides download processing of the program for the flash ROM.
PJL command /response	Serves as a PJL port to send and receive the PJL command.

12) Others

a) Hot Protocol

The Hot Protocol provides a function of simultaneous meeting of requests for connection from multiple clients using different transport layer protocols.

b) Multi-user

The Multi-user provides a function of simultaneous meeting of requests for connection from multiple clients using the same transport layer protocol.

c) Permissible connection

	Number of connections	Remarks
Total number of connections	10	
Number of connections for simultaneous use of management APs (Telnet, SMP, Web, OKI Original Port)	2	
Number of connections for simultaneous use of printing APs	8	

13) Setup

Each setup item can be set by the menu and network management tool.

Classification	Setup item	Menu change	Management tool change	Description
Common	Network valid/invalid	◯	◯	Valid/invalid for entire network
	Frame type	X	◯	Frame type for transmission and reception
TCP/IP	TCP/IP valid/invalid	◯	◯	TCP/IP valid/invalid
	IP address	◯	◯	
	IP subnet mask	◯	◯	
	Default gateway	◯	◯	
Netware	Netware valid/invalid	◯	◯	Netware valid/invalid
	Netware mode	X	◯	R-Printer/Q-server
	Network address	X	X	
	Q-server print server name	X	◯	
	Q-server connection file server name	X	◯	
	Q-server polling rate	X	◯	
	NDS Tree name	X	◯	
	NDS Context name	X	◯	
	R-Printer printer name	X	◯	
	R-Printer connection print server name	X	◯	
NetBEUI	NetBEUI valid/invalid	◯	◯	NetBEUI valid/invalid
	Net BIOS Host name	X	◯	
	NetBIOS Work Group name	X	◯	
AppleTalk	EtherTalk valid/invalid	X	◯	EtherTalk valid/invalid
	printer name	X	◯	
	Ether Talk zone nameSpecify by -1/-2/-3/-4 options.	X	◯	Name of the zone to which the printer belongs
	Ether Talk Printer name	X	◯	Name of the printer